



22ND

ANNUAL REPORT

ON THE

HEALTH OF ST. HELENS

For the Year ending Dec. 31st, 1894,

BY

J O H N R O B E R T S O N ,

M.D., B.Sc. (PUB. HEALTH), &C.,

Medical Officer of Health ;

AND

Public Analyst.



ST. HELENS:

F. HODGSON, PRINTER AND STATIONER, OLD MARKET PLACE.

1895.



22ND
ANNUAL REPORT
ON THE
HEALTH OF ST. HELENS

For the Year ending Dec. 31st, 1894,

BY
JOHN ROBERTSON,
M.D., B.Sc. (PUB. HEALTH), &C.,
Medical Officer of Health ;
AND
Public Analyst.



ST. HELENS:
F. HODGSON, PRINTER AND STATIONER, OLD MARKET PLACE.

1895.



Digitized by the Internet Archive
in 2018 with funding from
Wellcome Library

<https://archive.org/details/b30127270>

TABLE OF CONTENTS.

PAGE

Members of Health Committee	...	...	...	...	...	...	...	...	3
Obituary	...	...	..	...	..	...	...	...	4
Statistical Summary for 1894	...	...	...	...	...	...	...	...	5
Introduction	...	...	...	...	...	...	...	...	6
Population	...	...	...	...	...	...	...	...	8
Causes of increase of Population	...	...	...	...	...	...	...	...	9
Inhabited Houses...	...	...	...	...	...	...	...	...	9
Distribution and density of Population	...	...	...	...	...	...	...	...	10
Age Distribution of Population	...	..	...	...	...	...	...	...	11
Births	...	...	...	...	...	...	...	...	11
Illegitimacy	...	...	..	...	...	...	...	..	13
Infantile Mortality Rate	...	...	...	...	...	...	...	...	15
Mortality Rate	...	...	...	...	...	...	...	...	17
Mortality at various ages	...	...	...	...	...	...	...	...	18
Vital and Mortal Statistics for 25 years, and Chart No. 1	...	...	...	...	...	...	...	...	19
Comparative Vital and Mortal Statistics for 33 large towns	...	...	...	...	...	...	...	...	20
„ „ „ for smaller towns	...	...	...	...	...	...	...	...	21
Weekly Mortality Returns for St. Helens	...	...	..	...	...	...	...	...	22
Zymotic Diseases	...	...	...	...	...	...	...	...	23
Cholera	...	...	...	...	...	...	...	...	24
Small Pox	...	...	..	...	..	..	...	...	24
Vaccination	..	...	...	...	...	...	...	...	25
Measles	...	...	..	...	...	...	...	...	25
Scarlet Fever	...	...	...	...	...	...	...	...	27
Diphtheria	..	...	...	..	...	...	...	...	30
Whooping Cough	...	...	...	...	...	...	...	...	32
Typhoid Fever	...	...	...	...	...	...	...	...	33
Typhus Fever	...	...	...	...	...	...	...	...	37
Continued Fever	...	...	...	...	...	...	...	...	38
Diarrhœa...	..	...	...	...	...	...	...	...	38
Chart No. 2—"Diarrhœa in relation to Temperature"	..	...	...	...	...	...	...	...	39
Influenza...	...	..	...	...	...	...	...	...	40
Erysipelas	...	...	...	...	...	...	...	...	40
Puerperal Fever	..	...	...	...	..	..	...	...	41
Cancer and Malignant Diseases	...	..	...	...	...	...	...	...	41

	PAGE
Tubercular Diseases	42
Local Diseases	43
Isolation Hospital and Disinfecting Station	45
Special Report, 1894	48
Water Softening Works	48
Alkali Works	49
Dairies, Cowsheds and Milkshops	49
Insanitary Property	50
Canal Boats	50
Black Smoke Nuisance	51
Swine Fever	51
Offensive Trades	52
Common Lodging Houses	52
Houses sub-let in Lodgings	52
Slaughter Houses and Meat Inspection	52
Sale of Food and Drugs Act	55
Bakehouses	57
Workshops	57
Nuisance Inspector's Work	58
Work of Female Sanitary Inspector	59
Tub and Pail System	60
Meteorology	61
Appendix showing Buildings, and Sewering, &c.	
Table D	
,, A	
,, B	
,, C	
Street Register	

HEALTH COMMITTEE

OF THE

ST. HELENS CORPORATION.

NOVEMBER, 1894.

THE RIGHT WORSHIPFUL THE MAYOR (COUNCILLOR H. MARTIN, J.P.)

COUNCILLOR J. FORSTER, J.P., CHAIRMAN.

„ J. MASSEY, DEPUTY-CHAIRMAN.

ALDERMAN D. GAMBLE, C.B., J.P.

„ J. C. GAMBLE, J.P.

„ D. McKECHNIE, J.P.

„ R. PILKINGTON, J.P.

„ A. SINCLAIR, J.P.

COUNCILLOR J. BURCHALL, J.P.

„ F. A. BURT.

„ J. FISHER.

„ J. GREEN.

„ J. POVEY.

OBITUARY NOTE.

ROBERT McNICOLL, M.R.C.S., J.P., LATE MEDICAL OFFICER OF HEALTH FOR ST. HELENS, died on October 30th, 1894, after a short illness, at the age of 74 years.

For nearly 50 years Dr. McNicoll practised medicine in St. Helens, and during 40 of these years he held one of the appointments as Parochial Medical Officer.

He was appointed Medical Officer of Health in 1873, and held this appointment with conspicuous ability until his retirement on June 7th, 1894. He was one of the first Medical Officers of Health appointed in England.

Dr. McNicoll was one of the founders of the North-Western Association of Medical Officers of Health, to which Association he contributed extensively. His early work as Medical Officer of Health was by no means easy, but by his tact and kindly manner he endeared himself to all, so that of none could it be said more truly—

“A man he was, to all the country dear.”

He served his town in yet another way—as Public Vaccinator—and it is mainly due to him that so efficient Vaccination exists in St. Helens.

Dr. McNicoll possessed a fine literary taste, and very considerable powers as an eloquent and incisive speaker. These, together with his broad minded philanthropy, made him a power for good.

Had Dr. McNicoll been spared but a few days longer he would have seen the completion of a public testimonial to him, in the shape of the establishment of “The McNicoll Scholarship,” at the Cowley Middle Schools.

J. ROBERTSON.

STATISTICAL SUMMARY FOR 1894.

POPULATION—Estimated to the Middle of the Year—

Males	...	40,515	}	Total	...	77,690
Females	...	37,175			...	

Natural increase during year	1,497
------------------------------	-----	-----	-----	-------

MARRIAGES	563
-----------	-----	-----	-----	-----	-----	-----	-----

Annual Rate of Persons Married per 1000 of the Population	7·34
---	------

BIRTHS	Males	...	1,474	}	Total	...	2,882
			Females	...	1,408			...	

Annual Rate of Births per 1000 of Population	37·09
--	-----	-----	-------

Mean „ „ during years 1885 to 1894	39·29
------------------------------------	-----	-----	-------

DEATHS	Males	...	724	}	Total	...	1,400
			Females	...	676			...	

Annual Rate of Mortality per 1000	...	Males	17·86	}	Total	...	18·02
		Females	18·18			...	

Mean Rate during years 1885 to 1894	22·10
-------------------------------------	-----	-----	-----	-------

Total Deaths from Zymotic Diseases	172
------------------------------------	-----	-----	-----	-----	-----

Annual Rate of Mortality from Zymotic Diseases	2·21
--	-----	-----	------

Mean Rate of Mortality from Zymotic Diseases for years 1885 to 1894	3·84
--	-----	-----	-----	-----	------

Infantile Mortality Rate, 1894	160·8
--------------------------------	-----	-----	-----	-----	-------

Mean Rate for years 1885 to 1894	168·5
----------------------------------	-----	-----	-----	-----	-------

MEDICAL OFFICER OF HEALTH'S DEPARTMENT,
TOWN HALL,
ST. HELENS,

March 27th, 1895.

.....

*To the Chairman and Members of the Health Committee,
St. Helens Corporation,*

GENTLEMEN,

I have the honour to present to you the 22nd Annual Report on the Health of the Borough of St. Helens, being the 5th Report issued since my connection with the Health Department, first as Assistant Medical Officer of Health, and lately as Medical Officer of Health.

The year 1894 was marked by several circumstances of importance as regards the Health of the Community.

The general death-rate was by far the lowest ever recorded during the past quarter of a century. We may go still further back, and say that it is probably the lowest death-rate recorded since St. Helens developed into a town district, but the Health Department do not possess the Mortality returns prior to 1870, and therefore comparison cannot be made. It must not be forgotten, however, that England generally enjoyed a similar exceptionally low rate of mortality in 1894.

Such a death-rate as occurred in 1894 means an enormous saving of life and health. Had the death-rate of 1893 continued at the same rate in 1894 no less than 341 persons would have died who are now alive. The amount of sickness saved will have been correspondingly great.

One of the most satisfactory points in the vital Statistics for 1894 is the fact that the number of cases, both of sickness and of death, from the group of preventible Infectious Diseases was lower than in any one of the previous 24 years.

A Table and Chart has been added containing the main facts in regard to the Health Statistics of St. Helens for the past 25 years.

I can with assurance say that the work done by your Committee during the past year will still further improve the general health of the town. A large result cannot be expected at once, but I have been much struck on many occasions during the past year with the value of the work of your Committee in educating the people in Sanitary matters generally.

It is with the deepest regret that I have to record in the short obituary note added to this report, the resignation on June 7th, and the death on October 30th, of your late very highly esteemed Medical Officer of Health.

I have to thank your Committee for the way in which they have supported my action during the year, and also the individual members for kindly advice and help given me in cases where I have been in doubt.

My thanks are also due to the Medical Practitioners in St. Helens for their assistance in reporting to me, when interference was necessary, and in so loyally supporting our efforts to improve generally the healthfulness of the town.

In conclusion, I have to report that the various Officials connected with my department have carried out their work in an energetic and conscientious manner.

I am, Gentlemen,

Your obedient Servant,

JOHN ROBERTSON.

POPULATION.

The Population of St. Helens at the middle of 1894, June 30th, has been estimated by the usual method to be 77,690 persons—40,515 males and 37,175 females.

No sooner had the complete report on the census of April 5th, 1891, been issued than a difficulty occurred in estimating the exact number of persons living within the boundary. The figures given above are those obtained by assuming that the same rate of increase which occurred between 1881 and 1891 will continue between 1891 and 1901. In a manufacturing town such as St. Helens, where the staple industries are limited in number, and where these have been in the most unsatisfactory condition during the year, there is always a risk that the estimation of the population may not be correct. Where such an estimation is too great, the various mortality rates are in consequence too low, while the converse holds good when the estimate is too small. Considerable trouble has been taken in verifying the above estimate in various ways. So far as can be ascertained there has been no unusual migration from the town, despite the fact that trade has not been in a flourishing condition during the year.

The enormous importance of a correct estimate of the population as a basis for all statistics relating to the public health calls for a more frequent census than at present. The present census arrangements might with profit be extended, so as to take the gross number of persons living in the various areas at least once in the interval between the present decennial censuses.

The enumeration areas might be much lessened in size, so that correct statistics might be obtained for smaller areas, and in this way specially unhealthy areas would be more likely to receive the attention which they require from a Health Authority.

The estimate of the population in 1894 has been arrived at as follows :—

Population of added area at census 1891 1125
(Information supplied by Registrar-General).

If the increase in this area had been at the same rate as in the "Old Borough," it would have been at the census of 1881 905

Census 1881, 57,403 + 905 = 58,308 log 4.76567

Census 1891, 71,288 + 1125 = 72,413 log 4.85980

Increase 10 years log .09413

„ 1 „ log .009413

„ 3¼ „ (to June 30th, 1894) ... log .030592

Population June, 1894 = log 4.85980 + log .030592 = log 4.890392

This gives Population June, 1894 **77,690.**

CAUSES OF INCREASE OF POPULATION.

The Birth-rate for St. Helens is still a very high one. The number of Children born during the year was 2,882, the number of persons who died was 1,482, the natural increase therefore was 1,482, and comparing this with what we had in former years we have as follows:—

Year	Natural Increase	Estimated Increase	Increase due to Immigration
1883	1152	1291	139
1884	1203	1321	118
1885	1062	1348	286
1886	1193	1379	186
1887	1030	1407	377
1888	1322	1440	118
1889	1236	1470	234
1890	1032	1504	472
1891	1094	1534	440
1892	1408	1574	166
1893	1236	1600*	364
1894	1482	1660	178

* This figure does not include the increase which took place in the new area during 1893.

The increase due to immigration is therefore 178.

The balance between births and deaths is invariably the great source of the increase of the population, while that due to the balance between emigration and immigration may be a source of decrease instead of increase. It has been a source of decrease throughout England since 1881, and has only been an increase in prosperous towns like St. Helens.

INHABITED HOUSES.

The number of Inhabited Houses at the census of 1881 was 10,007; in 1891 it was 12,341. If this rate of increase had continued (the area added on August, 1893, being included) the number of inhabited houses on June 30th, 1894, would have been 13,550.

This number may be obtained also by adding to the 12,341 on April 5th, 1891, the 844 houses that have been erected up to June 30th, and deducting those known to have been condemned or pulled down, when we get 13,558.

This allows of 5·72 persons per house. At the 1881 census there were 5·73 persons per house, and in 1891 there were 5·77 persons per house.

A larger number of cases of overcrowding came under the notice of the Nuisance Inspectors during the year than in any former year.

DISTRIBUTION OF POPULATION.

In the accompanying table is given the statistics relating to the distribution and density of the Population.

WARDS	Population Census 1891*	Estimate to June 30th, 1894*	Persons per Acre
Eccleston, North ...	8555	9286	45·0
Eccleston, South ...	6797	7325	13·9
Central	8219	8321	84·9
Windle, North ...	7481	8333	11·6
Windle, South ...	8438	8580	126·1
Hardshaw	9225	9834	28·8
Sutton, East ...	8250	8981	6·9
Sutton, West ...	7418	8270	3·4
Parr	8030	8760	5 9
	72413	77690	10·86

* Including Area added to Borough in August, 1893.

The above shows that the persons per acre in the various Wards vary very much indeed. It must, however, be remembered that these figures do not adequately represent the density of the population on which any health statistics could be correctly based. Such Wards as Parr, East and West Sutton, and North Windle contain almost the whole of their populations in densely peopled areas, while in other parts they contain practically no population.

AGE DISTRIBUTION OF THE POPULATION.

AGES		CENSUS, 1891 Total	Total Estimated to June 30th, 1894
Under 1 year ...	...	2398	2611
1 to 2 years ...	...	2143	2333
2 „ 3 „ ...	...	2140	2330
3 „ 4 „ ...	...	2068	2252
4 „ 5 „ ...	...	1967	2153
Total under 5 years ...	...	10716	11679
5 to 10 years ...	...	9221	10049
10 „ 15 „ ...	...	8334	9083
15 „ 20 „ ...	...	7441	8109
20 „ 25 „ ...	...	6582	7173
25 „ 30 „ ...	...	6023	6564
30 „ 35 „ ...	...	5129	5590
35 „ 40 „ ...	...	4465	4865
40 „ 45 „ ...	...	3674	4004
45 „ 50 „ ...	...	2685	2926
50 „ 55 „ ...	...	2434	2653
55 „ 60 „ ...	...	1620	1766
60 „ 65 „ ...	...	1407	1533
65 „ 70 „ ...	...	763	831
70 „ 75 „ ...	...	461	503
75 „ 80 „ ...	...	227	247
80 „ 85 „ ...	...	83	90
85 „ 90 „ ...	...	19	21
90 „ 95 „ ...	...	4	4
95 „ 100 „ ...	...	—	—
Totals ...	...	71288	77690

BIRTHS.

The number of births registered in St. Helens in 1894 was 2,882, a number below that of the previous two years, but above the average during the 10 years—1884 to 1895.

Of the 2,882 children born, 1,474 were males and 1,408 were females—this being in the proportion of 100 males to every 95·5 females. At the census of 1891 there were 100 males to every 91·7 females, at all ages in St. Helens. At the census there were in England for every 100 males 106·4 females.

During the previous 10 years these ratios were :—

1885	100	males	to every	95·9	females.
1886	„	„	„	99·4	„
1887	„	„	„	101·6	„
1888	„	„	„	93·7	„
1889	„	„	„	90·3	„
1890	„	„	„	96·3	„
1891	„	„	„	97·6	„
1892	„	„	„	99·9	„
1893	„	„	„	90·7	„
1894	„	„	„	95·5	„
Mean of 10 years	„	„	„	96·05	„

This high relative proportion of males to females, and the high birth-rate of males is a circumstance which has a bearing on our mortality returns. In nearly every group of diseases the death-rate among males is greater than among females.

The birth-rate during the past year was at the rate of 37·09 per 1,000 per annum. This is a low birth-rate—only once during the past 25 years was a lower rate recorded, *i.e.*, 37·03 in 1887. The average during the 10 years—1885-1894—was 39·35 per 1,000 per annum. So high an average birth-rate occurs in very few other towns in England and Wales.

The birth-rates for other towns on pp. 20, 21, tables E and F, show that in the 64 towns only 2 had a higher birth-rate than St. Helens, *i.e.*, Warrington and Wigan. It will also be noticed that in both these towns the population is considerably less than our own.

In table H, page 22, the weekly birth-rates are set out, and from this the following interesting monthly rates have been obtained :—

January	...	...	...	43·4	July	...	...	...	...	33·9
February	...	...	...	38·6	August	...	...	...	...	37·1
March	...	...	...	38·3	September	...	...	...	...	30·4
April	...	...	...	37·1	October	...	...	...	...	35·4
May...	...	...	...	37·9	November	...	...	...	...	37·6
June	...	...	...	35·6	December	...	...	...	...	39·6

The birth-rate throughout 1893 was a very high one (40·1), and it will be noticed that this high rate continued into 1894, but that in June it fell to 35·6 per 1,000, and continued to be low until November. After November it rose steadily, reaching 44 per 1,000 in January and February, 1895.

This decrease in the birth-rate in the middle of 1894 is probably due in various ways to the disastrous “coal strike” in the autumn of 1893. Such prolonged periods of bad trade generally influence both marriage and birth-rates alike.

The Quarterly number of Births is given in the accompanying table, together with the rates for each quarter during 1894:—

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals.	Rate per 1,000 per year
1885	709	631	582	606	2528	39·9
1886	721	651	671	595	2638	40·7
1887	651	617	584	604	2456	37·0
1888	694	668	601	689	2652	39·2
1889	723	748	624	679	2774	39·8
1890	754	678	645	699	2776	38·9
1891	767	684	750	719	2920	40·7
1892	695	769	719	730	2913	39·7
1893	775	747	776	731	3029	40·1
1894	Males ...374	365	336	399	1474	37·09
	Females...407	351	317	333	1408	
	Total ...781	716	653	732	2882	
	Rate per 1,000..40·2	36·8	33·6	37·6		

In Tables E and F (pages 20 and 21) are shown the birth-rates for other English towns. It must be remembered that it is not quite satisfactory to compare our Birth-rate per 1,000 with that of other towns, unless the population in these town are known to be identical with our own in age and sex composition. There may be a difference of 10 to 15 per cent. in two towns as to the relative number living in each of the ages between 20 and 55.

The Birth-rate in England and Wales in 1894 was 29·6 per 1,000 of the population, and this was the lowest rate ever recorded, being no less than 2 per 1,000 below the average of the ten years—1884 to 1893. The general Birth-rate in England has shown a tendency to decline slightly year by year. The rates for St. Helens have shown a similar tendency, but although our rate for 1894 was one of the lowest recorded, it was 7·4 per 1,000 of the population above that in the whole of England and Wales.

ILLEGITIMACY.

Illegitimacy has important bearings on, both social problems and on the chances of life of the unfortunate infants.

Of the 2,882 Births which were registered as occurring within the boundaries of St. Helens 91 were illegitimate. This is in the proportion of 968·5 legitimate births to 31·5 illegitimate. The proportion per 1,000 of illegitimate births to legitimate ones was higher during

1894 than in any other of the previous 12 years, and was 6·3 per 1,000 births more than the average during the previous 10 years, as shown below :—

	Legitimate	Illegitimate
1885	974	26
1886	974	26
1887	971	29
1888	970	30
1889	975	25
1890	976	24
1891	974	26
1892	981	19
1893	974	26
1894	968·5	31·5

The above figures do not include those cases of illegitimate births of children which take place in Whiston Workhouse (outside the borough). Were these included the rate would be slightly higher.

It is satisfactory to point out that the illegitimacy rate in St. Helens compares favourably with that in other Northern Counties :—

Counties	Per 1,000 Births	
	Legitimate	Illegitimate
Nottingham ...	946	54
Derbyshire ...	959	41
Cheshire ...	958	42
Lancashire ...	959	41
Yorkshire ...	948	52
Durham ...	963	37
Northumberland ...	954	46
Cumberland ...	932	68
Westmoreland ...	932	68
All Wales ...	955	45
St. Helens ...	968·5	31·5

INFANTILE MORTALITY RATE.

The mortality rate of children under one year is based not on the population but per 1,000 births per annum, and is usually of great importance in any inquiry into the healthfulness of a district.

The rate for 1894 was 161, against an average of 169 in the previous 10 years. In England and Wales it was **137** in 1894, and in the larger and smaller sized towns the rate is given on Tables E and F. It will be seen that in 16 of these **64** towns the infantile mortality rate was higher, and in 47 towns it was lower than that of St. Helens.

Comparing the St. Helens rate during 1894 with that in the years 1885 to 1894 we get:—

1885	...	168	1890	...	170
1886	...	172	1891	...	180
1887	...	163	1892	...	147
1888	...	151	1893	...	196
1889	...	177	1894	...	161

The 466 Deaths occurred during the year as follows:—

January	...	32	July	...	38
February	...	34	August	...	41
March	...	44	September	...	47
April	...	37	October	...	46
May	...	19	November	...	49
June	...	37	December	...	42

In judging of the value of the Infantile Mortality rate of 161 per 1,000 Births in 1894, it must be remembered that in 1893 the Birth-rate was over 40 per 1,000, and that a number of children born during this period died during the period of lower Birth-rate in 1894. As a result the rate is 11 per 1,000 above what would have occurred if the 1893 Birth rate had been maintained in 1894.

One out of every 3 persons who died during 1894 was under 1 year of age.

Practically no systematic and active attempts have been made in this country to lower the number of deaths of children under one year. Yet from a survey of the causes of death (see Table D) and of the localities in which these deaths occurred it is manifest that at least one-half of this total number is due to preventible causes. It is probable that this large number of Deaths is due mainly to carelessness or ignorance on the part of parents or guardians, and not so much to insanitary surroundings, over which they may have no control. Again, it must be remembered that however careful and skilled may be the medical attendant who is called in, (and such skill is in the majority of cases not

sought till the disease is well developed), the chance of his advice being of value in averting death is not nearly as great, as in the case of older children. Care on the part of the parents in preventing illness and maintaining the health of these young infants is the real remedy for the majority of these eminently preventible deaths.

The action of your Committee in appointing a Female Sanitary Inspector in the beginning of 1894 is a step in the right direction. One of her duties is to advise as to the feeding and rearing of young children where gross ignorance or carelessness are displayed. This work is difficult in many ways, the greatest amount of tact and prudence having to be observed in carrying it on. There is a tendency to resent any interference on the part of the Sanitary Authority, or to treat lightly the advice given, and, moreover, it is often difficult to ascertain where advice is really needed, the first intimation frequently being the Registrar's return of the death of the infant.

In Table D it will be seen that 466 children (under one year of age) died during the year, and of that number 224 were under 3 months (47 per cent.), 97 between 3 months and 6 months (20 per cent.), and 145 between 6 and 12 months (33 per cent.)

Again, it will be noticed that no less than 209 of the 466 Deaths under one year, were due to diarrhœa, convulsions, bronchitis, pneumonia, and diseases of stomach and intestines, all of which may be classed as "preventible" in that they are usually due either to exposure and cold or to injudicious feeding.

This group of Deaths is almost limited to the children of the working classes, among a large percentage of whom the life of the infant is not valued so greatly as it is among the better classes. Infant insurance, although originally introduced as a provident institution, tends to lower the value of the infant's life in the eyes of its parents. Such insurances are very prevalent in St. Helens.

Perhaps one of the most important causes in the production of infant mortality is the fashion of "bottle feeding," in lieu of the natural breast milk. Under the heading of diarrhœa will be found some statistics on this subject. The foods used in the "bottle" are often most unsuitable, and want of care and cleanliness in feeding by the bottle is very common. It is exceedingly difficult to persuade mothers to abandon "bottle" feeding, as they are not so able to carry out all the little details in the management of artificial feeding that ladies in better positions and better educated can do.

Female factory labour, so fertile a cause of infant deaths, does not operate in St. Helens. In such cases there is a real need for artificial feeding, but in St. Helens we have not this excuse for the very prevalent custom of bottle feeding.

It is necessary that advantage should be taken of every means which will tend to dispel ignorance of the principles in operation in the rearing of young infants. However, most of these means do not come directly within the scope of your Committee. They are briefly :—

- 1st.—The diffusion of a knowledge of the elementary principles of Hygiene in Girls' Schools, &c.
- 2nd.—The visits and advice of Female Sanitary Inspectors and of Lady Visitors.
- 3rd.—The better training of Midwives and Nurses who attend on the working classes, most of whom at the present time are practically untrained.

MORTALITY RATE.

The Local Registrars have recorded the deaths of 1,400 persons. Of this number 724 were males and 676 were females. The rate of mortality during 1894 was 18·02 per 1,000 per annum, or 17·86 per 1,000 per annum for males and 18·18 for females.

There has been a tendency in recent years to exclude from mortality returns the deaths of persons who came from outside districts and died in Public Institutions, and in this way annual rates of mortality have been considerably reduced. The deaths which have been excluded are not shown in any other mortality statistics, and in Lancashire alone the County Medical Officer of Health has shown that very large numbers of deaths escape being recorded by the local authorities every year on this account.

It seems better therefore to include all deaths inside the Borough, and to state the number of these that have actually died belonging to other districts.

At the County Asylum there died during the year 81 patients, and of these only 6 came from the Borough of St. Helens, leaving 75 deaths that might be excluded.

At the two Hospitals in St. Helens 2 patients died who came from outside the boundary, making 77 deaths that might be eliminated from our returns, but against this number are 78 persons who died at the Workhouse, which is outside the Borough boundary, and who came from St. Helens, so that very little alteration would be necessary in the death rate even were these cases taken into account.

The mean Death-rate during the 10 years 1885 to 1894 was 22·10, so that the mortality rate is nearly 4 per 1,000 below the average for these years. On referring to page 19 and chart 1 it will be seen that the mortality rate for 1894 is the lowest that has ever been recorded in St. Helens during the 25 years there set out.

The chief reasons for this lower mortality rate are the absence of any large epidemic, and the favourable climatic conditions which existed.

The Death-rate for the whole of England during 1894 was the lowest ever recorded, *i.e.*, 16·6 per 1,000 of the population. Not only was this so, but the rate was 1·5 per 1,000 below the lowest rate ever before recorded, and 2·6 below the mean of the previous 10 years.

It will be noticed from the Tables E and F that all other towns in England and Wales enjoyed a similar exceptionally low death-rate. Of the 33 large towns 13 had a higher death-rate, and 20 had a lower death-rate than St. Helens. Of the towns on Table F 7 had higher death-rates and 23 had lower death-rates than St. Helens.

The Death-rate during the 4 quarters of each of the past 3 years is given below:—

		1892.		1893.		1894.
1st Quarter	...	23·6	...	24·8	...	17·5
2nd	„	18·8	...	22·7	...	16·8
3rd	„	19·6	...	26·8	...	17·4
4th	„	19·6	...	19·5	...	20·2

On Table H will be seen the Death-rate for each week during the year.

The Death-rate in the various wards is shown below:—

WARDS.		Death Rate		Death Rate		Death Rate
		1892.		1893.		1894.
Eccleston, North	...	20·1	...	24·5	...	19·0
Eccleston, South	...	15·3	...	16·8	...	12·5
Central	...	19·9	...	24·5	...	14·4
Windle North	...	16·5	...	19·7	...	14·1
Windle, South	...	21·6	...	20·6	...	15·5
Hardshaw	...	21·7	...	31·0	...	27·5
Sutton, East	...	15·6	...	20·1	...	15·2
Sutton, West	...	27·8*	...	39·0*	...	26·8*
Parr	...	22·2	...	22·7	...	16·6

* Including Deaths in Rainhill Asylum (old part).

On the accompanying Table will be seen the death-rates at the various age groups during 1894.

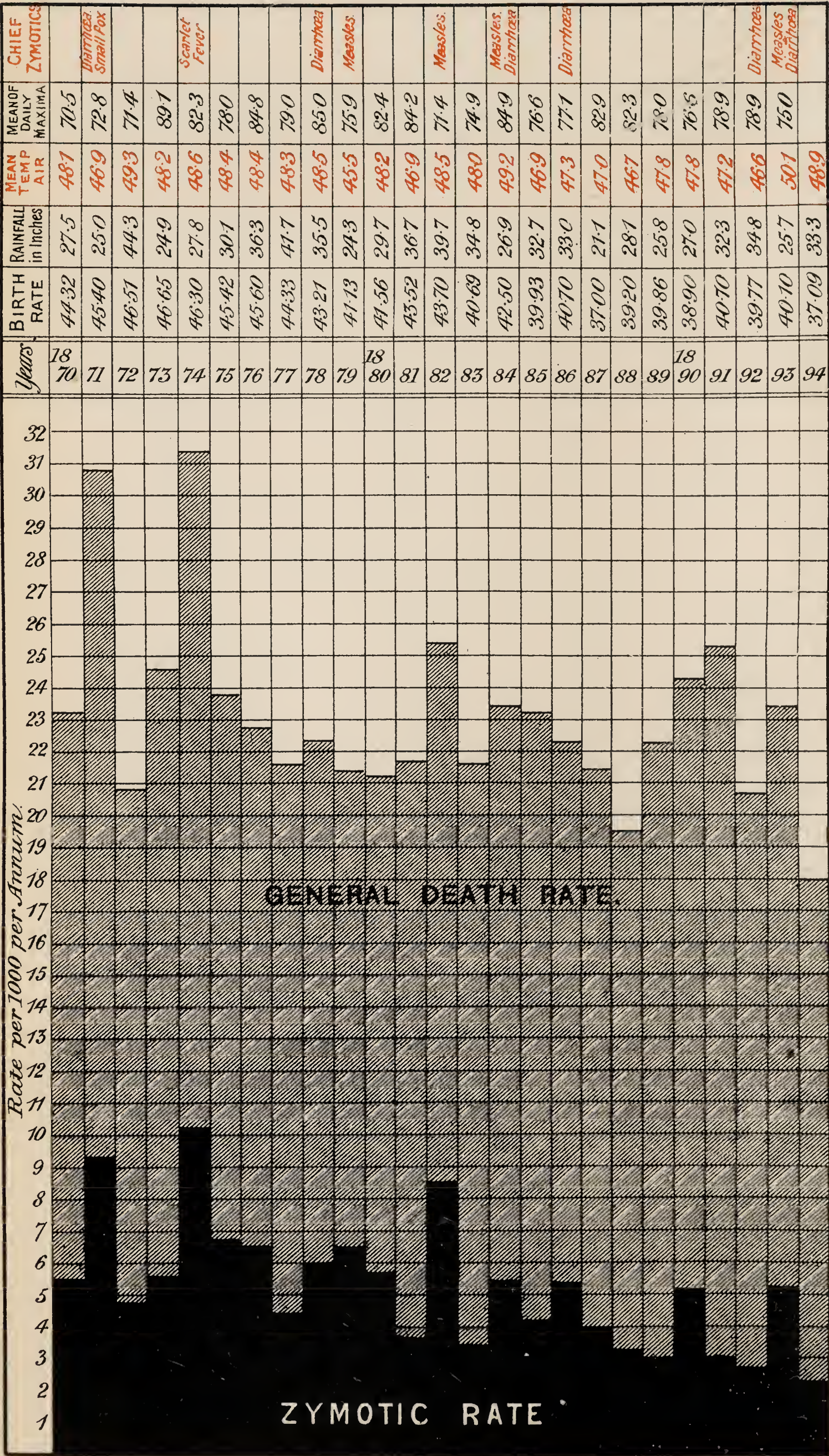
MORTALITY AT VARIOUS AGES.

In the following table the Death-rate at various age groups is shown for the year 1894.

It is necessary to point out that the figures on which this table is based are not sufficiently large to produce absolutely accurate results.

				Death Rate					Death Rate
Ages				per 1,000	Ages				per 1,000
Under	1 year	...	...	178·4	20 to	25 years	...	...	6·5
1 to	2 years	...	...	59·5	25	„ 35	„	...	7·2
2	„ 3	„	...	17·5	35	„ 45	„	...	11·6
3	„ 4	„	...	10·6	45	„ 55	„	...	20·4
4	„ 5	„	...	9·7	55	„ 65	„	...	35·4
5	„ 10	„	...	4·7	65	„ 75	„	...	71·2
10	„ 15	„	...	2·9	75	„ 85	„	...	112·7
15	„ 20	„	...	3·6	Upwards of 85 years				80·0

CHART No. 1.



FOR 25 YEARS.

TABLE SHOWING THE VITAL AND MORTAL STATISTICS FOR
ST. HELENS DURING 25 YEARS.

YEARS.	Population.	Birth Rate.	Death Rate.	Zymotic Death Rate.	DEATHS FROM								
					Small Pox.	Measles,	Scarlet Fever.	Typhoid Fever.	Typhus Fever.	Continued Fever.	Diarrhoea.	Whooping Cough.	Diphtheria.
1870	44320	..	23.46	5.5	0	0	56	10	8	11	97	37	5
1871	45400	..	27.79	9.4	..	..	..	..	..	..	..	..	..
1872	46510	..	20.46	4.9	65	14	6	13	3	13	65	16	3
1873	47630	46.65	23.03	5.03	4	19	92	20	2	0	79	9	15
1874	48790	46.30	31.43	9.2	0	29	231	19	1	0	110	41	14
1875	49970	45.42	24.69	5.3	0	4	77	45	1	0	101	31	10
1876	51190	45.60	23.28	5.1	0	102	21	30	1	0	86	7	15
1877	52430	44.33	22.84	3.2	0	2	12	22	1	0	74	48	11
1878	53700	43.21	23.99	4.2	0	4	22	35	0	0	132	15	20
1879	55010	41.13	22.40	5.7	0	143	83	31	2	0	52	2	3
1880	56340	41.56	20.05	4.6	0	0	27	32	2	0	130	71	1
1881	57711	43.52	21.69	2.92	0	14	28	45	0	0	76	3	3
1882	58972	43.70	25.46	7.4	0	250	36	24	1	0	85	36	6
1883	60263	40.69	21.65	2.5	0	3	14	2	1	0	69	24	11
1884	61584	42.50	24.16	5.3	0	131	16	28	2	0	131	9	11
1885	62932	39.93	23.32	3.5	0	81	13	6	1	0	56	53	11
1886	64311	40.70	22.46	5.2	0	102	34	28	0	0	122	41	10
1887	65718	37.00	21.69	3.9	0	53	35	24	0	0	101	28	11
1888	67158	39.20	19.80	3.1	0	38	11	21	0	0	65	61	21
1889	68628	39.86	23.50	4.18	0	78	3	77	1	0	85	15	29
1890	70132	38.90	25.43	5.3	0	19	181	24	1	0	74	68	13
1891	71666	40.70	26.02	3.0	0	54	24	25	0	0	78	29	9
1892	73240	39.77	20.55	2.64	1	23	18	25	0	0	84	31	12
1893	*75390	40.10	23.46	5.3	5	135	6	52	0	0	168	19	16
1894	*77690	37.09	18.02	2.21	0	21	14	26	2	0	38	61	10

* These figures include Population in Area added 1893.

TABLE E.

TABLE COMPILED FROM THE REGISTRAR GENERAL'S QUARTERLY REPORTS IN ORDER TO SHOW THE COMPARATIVE MORTALITY OF ST. HELENS WITH 33 OTHER LARGE ENGLISH TOWNS IN 1894.

NAME OF TOWN.	Estimated Population middle of 1894.	Annual Rate per 1,000 living.			Deaths of Children under One Year of Age to 1000 Births.	Average Death Rate 10 years, 1885—1894.
		Births.	Deaths.	Principal Zymotic Deaths.		
London	4,349,166	30·1	17·7	2·66	143	..
West Ham	238,184	33·97	16·1	3·19	138	..
Croydon	111,921	25·	13·1	1·54	121	..
Brighton	118,715	25·8	16·4	1·20	138	17·6
Portsmouth	170,973	27·6	15·1	1·94	130	18·3
Plymouth	87,931	28·8	18·3	1·58	167	21·3
Bristol	226,578	28·2	17·2	2·04	148	19·3
Cardiff	148,890	34·3	16·2	1·93	141	20·7
Swansea... ..	95,370	32·2	17·0	1·76	161	20·3
Wolverhampton ...	85,036	34·0	20·7	3·23	166	20·8
Birmingham	492,301	31·6	18·5	2·49	163	19·9
Norwich	105,645	29·8	18·7	1·50	165	20·2
Leicester	189,136	31·4	14·6	1·93	162	18·3
Nottingham	223,584	28·6	17·2	2·33	174	18·2
Derby	98,796	29·3	15·0	1·62	123	18·1
Birkenhead	105,627	30·6	18·0	2·64	142	19·8
Liverpool	507,230	35·3	23·8	3·41	180	25·6
Bolton	118,303	31·5	18·8	1·82	162	22·1
Manchester	522,365	31·9	20·4	2·38	159	24·0
Salford	205,828	34·2	20·9	3·25	174	24·6
Oldham	138,755	27·1	18·6	1·84	160	23·0
Burnley	95,000	32·2	18·7	2·46	169	21·5
Blackburn	125,797	28·8	17·9	1·60	169	..
Preston	111,425	32·0	20·7	2·61	217	..
Huddersfield	98,511	20·2	15·8	1·44	159	19·3
Halifax	92,861	23·1	16·4	0·87	136	20·0
Bradford	223,985	26·6	17·0	1·76	145	19·06
Leeds	388,761	32·2	17·8	2·00	156	21·1
Sheffield... ..	338,316	33·3	17·7	2·26	157	21·6
Hull	212,679	32·3	17·3	1·75	141	..
Sunderland	136,101	35·1	20·7	3·05	168	21·9
Gateshead	93,372	34·1	17·6	2·35	151	..
Newcastle-on-Tyne ...	201,947	31·0	18·5	2·16	157	22·7
St. Helens	77·690	37·0	18·0	2·2	161	22·1

TABLE F.

5.—TABLE SHOWING COMPARATIVE STATISTICS BETWEEN
ST. HELENS AND OTHER SMALLER TOWNS DURING 1894.

NAME OF TOWN.				Population.	Birth Rate per 1,000.	Death Rate per 1,000.	Zymotic Rate per 1,000.	Infantile Death Rate per 1,000 Births.	Average Death Rate 10 years. 1885-94.
Ashton-under-Lyne	..	..	..	41,476	29·1	18·9	1·2	160	23·1
Bootle	..	..	..	51,500	32·2	18·4	3·04	157	20·05
Burton-on-Trent	..	..	..	48,490	31·6	15·5	2·3	131	17·2
Burnley	..	..	..	95,000	33·0	19·3	2·5	140	21·5
Carlisle	..	..	..	40,500	32·4	19·2	1·1	133	19·6
Cheltenham	..	..	..	49,000	20·5	14·9	·5	128	17·4
Croydon	..	..	..	109,000	26·6	16·9	2·2	156	15·2
Coventry	..	..	..	55,300	28·9	16·1	2·1	158	17·1
Dover	..	..	..	34,210	28·2	13·1	·3	90	..
Grimsby	..	..	..	55,000	33·9	16·7	2·4	153	17·8
Hastings	..	..	..	55,943	18·9	13·7	·9	119	15·2
Ipswich	..	..	..	59,316	28·7	17·0	1·5	121	19·1
Lincoln	..	..	..	42,846	28·5	15·1	·9	139	17·8
Macclesfield	..	..	..	36,000	28·2	17·7	1·9	134	25·7
Merthyr Tydvil	..	..	..	65,500	35·0	19·8	3·	190	22·
Newport	..	..	..	58,000	33·0	17·2	1·5	152	19·5
Northampton	..	..	..	63,758	29·0	14·2	1·3	136	17·2
Oxford	..	..	..	50,200	22·7	12·5	1·	105	15·7
Reading	..	..	..	64,109	28·7	13·6	0·9	109	16·1
Southampton	..	..	..	67,283	31·4	16·6	1·5	119	18·4
Southport	..	..	..	44,928	21·5	15·2	1·1	143	17·6
South Shields	..	..	..	87,045	34·4	16·8	1·4	139	20·2
Stockport	..	..	..	74,000	30·9	18·5	1·5	187	24·7
St. Helens	..	..	..	77,690	37·0	18·0	2·2	161	22·1
Swansea	..	..	..	95,350	32·3	17·28	1·7	163	20·3
Tynemouth	..	..	..	47,435	31·7	17·	1·4	125	20·2
Warrington	..	..	..	56,054	39·6	17·4	2·6	124	21·7
West Bromwich	..	..	..	60,000	36·8	15·9	1·7	152	18·9
Wigan	..	..	..	58,529	37·1	18·9	3·2	158	23·5
Worcester	..	..	..	43,735	29·6	16·4	1·3	141	20·7
Yarmouth	..	..	..	50,146	28·6	15·7	1·3	130	20·1
England and Wales	..	..	..	30,069,763	29·6	16·6	1·7	..	..

TABLE H.

WEEKLY RETURN OF BIRTHS AND DEATHS FOR 1894.

1894.			Deaths from all causes.	Annual Rate per 1000.	Deaths from seven principal Zymotics.	Annual Rate per 1000, for Zymotics.	Births.	Annual Rate per 1000, Births.
Week ending	January (6 days)	6	19	14.9	1	.5	64	42.8
"	"	13	35	23.4	4	2.67	56	37.4
"	"	20	26	17.3	3	2.00	79	52.8
"	"	27	26	17.3	6	4.01	64	42.8
"	February	3	24	16.0	1	.66	64	42.8
"	"	10	31	20.7	2	1.33	54	36.1
"	"	17	25	16.7	2	1.33	53	35.4
"	"	24	18	12.0	2	1.33	60	40.1
"	March	3	26	17.3	2	1.33	61	40.8
"	"	10	35	23.4	5	3.34	69	46.1
"	"	17	21	14.0	4	2.67	57	38.1
"	"	24	25	16.7	6	4.01	56	37.4
"	"	31	30	20.0	6	4.01	44	29.4
"	April	7	37	24.7	5	3.34	74	49.5
"	"	14	26	17.3	6	4.01	51	34.1
"	"	21	31	20.7	1	.66	45	30.1
"	"	28	19	12.7	2	1.33	52	34.7
"	May	5	19	12.7	2	1.33	58	38.8
"	"	12	26	17.3	3	2.00	47	31.4
"	"	19	20	13.3	1	.66	54	36.1
"	"	26	20	13.3	—	—	68	45.4
"	June	2	26	17.3	1	.66	66	44.1
"	"	9	23	15.2	2	1.33	52	34.7
"	"	16	28	18.6	2	1.33	46	30.7
"	"	23	27	18.0	1	.66	55	36.7
"	"	30	25	16.7	1	.66	48	32.1
"	July	7	31	20.7	4	2.67	58	38.8
"	"	14	27	18.0	4	2.67	53	35.4
"	"	21	20	13.3	—	—	50	33.4
"	"	28	21	14.0	2	1.33	42	28.0
"	August	4	34	22.6	6	4.01	53	35.4
"	"	11	28	18.6	6	4.01	53	35.4
"	"	18	27	18.0	8	5.35	59	39.4
"	"	25	22	14.7	4	2.67	57	38.1
"	September	1	19	12.7	4	2.67	48	32.1
"	"	8	28	18.6	5	3.34	52	34.7
"	"	15	22	14.7	2	1.33	28	18.7
"	"	22	31	20.7	4	2.67	45	30.1
"	"	29	28	18.6	2	1.33	55	36.7
"	October	6	34	22.6	6	4.01	51	34.1
"	"	13	28	18.6	9	6.02	58	38.8
"	"	20	24	16.0	8	5.35	70	46.8
"	"	27	25	16.7	4	2.67	33	22.0
"	November	3	30	20.0	3	2.00	54	36.1
"	"	10	35	23.4	4	2.67	48	32.1
"	"	17	36	24.0	3	2.00	67	44.8
"	"	24	31	20.7	4	2.67	56	37.4
"	December	1	28	18.6	3	2.00	58	38.8
"	"	8	29	19.4	2	1.33	62	41.4
"	"	15	29	19.4	1	.66	56	37.4
"	"	22	20	13.3	3	2.00	63	42.1
"	" (9 days)	31	45	23.5	—	—	56	37.4

CAUSES OF DEATH.

THE ZYMOTIC DISEASES.

The rate of mortality from the seven principal Zymotic Diseases, *e.i.*, Small Pox, Measles, Scarlet Fever, Diphtheria, Whooping Cough, Fever (including Typhus, Typhoid, and Continued), and Diarrhœa, was lower during 1894 than previously recorded. It was at the rate of 2·21 per 1000 of the population per annum.

In England and Wales, the lowest rate ever recorded was for 1894, 1·76 per 1000. Most of the large towns enjoyed a similar immunity from this group of Diseases, as may be seen in Tables "E" and "F."

Chart No. 1, page 19, shows in a graphic manner the Zymotic rates during the quarter of a century for which we possess statistics, and shows clearly that there has been a steady decrease in this rate.

The Zymotic rates for St. Helens in past years have been:—

1885	...	...	4·1	1890	...	...	5·3
1886	...	...	5·2	1891	...	...	3·0
1887	...	...	4·6	1892	...	...	2·26
1888	...	...	3·1	1893	...	...	5·30
1889	...	...	3·0	1894	...	...	2·21

Zymotic rates during each of the 4 Quarters of 1891 to 1894.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
1891	... 2·5	... 2·9	... 3·2	... 3·1
1892	... 2·0	... 1·2	... 3·9	... 2·4
1893	... 6·4	... 4·2	... 10·3	... 2·0
1894	... 2·26	... 1·39	... 2·62	... 2·57

In Table "D" will be found certain details as to ages and localities of each of the deaths from Zymotic Diseases.

The following gives the number of deaths from Zymotic Diseases in each Ward in the 4 years 1891 to 1894.

WARDS.	Total Deaths from 7 Principal Zymotics in each year.				Mean of 4 years	Persons per acre at Census	Population at Census 1891
	1891	1892	1893	1894			
Eccleston, North ...	32	24	55	20*	32·7	77·0	8552
„ South ...	12	13	34	16*	18·7	19·5	6639
Central ...	23	17	47	13	25·0	84·4	8219
Windle, North ...	17	9	32	14*	18·0	18·2	6517
„ South ...	22	37	50	14	30·7	125·7	8438
Hardshaw ...	31	23	40	35	32·2	28·5	9225
Sutton, East... ..	21	11	23	15	17·5	6·2	7418
„ West (†) ...	36	24	61	26	36·7	3·6	8250
Parr	28	36	60	19	35·7	5·8	8030
TOTALS ...	222	194	402	172	247	11·4	71288

* Including Deaths in the Area added to these Wards in August, 1893.

(†) Including Deaths in Fever Hospital.

CHOLERA.

No case of this much dreaded disease occurred in St. Helens, nor was any suspicious case reported, as was the case in the previous year. Similar precautions were held in readiness during 1894 to those detailed in the Annual Report for 1893.

On July 17th a circular letter was received from the Local Government Board setting forth the desirability of making Diarrhœa a notifiable disease during periods when a district was threatened with Cholera. The Board also pointed out the fact that notification might be adopted for short and definite periods. The value of this would undoubtedly be great, but, having regard to the fact that Cholera did not show a tendency to spread to this country; also that our climatic conditions were unfavourable, and that our deaths from Diarrhœa were lower than in any previous year during the 25 years for which we possess mortality returns, your Committee did not think such notification was necessary at the time, but were prepared to adopt such, should reasonable occasion arise.

Early in June a circular letter was sent to each Medical Practitioner in St. Helens, pointing out the importance of having every suspicious case isolated at the Hospital, and the diagnosis tested bacteriologically.

SMALL POX.

Two cases of Small Pox, one of which was fatal, occurred during the year. These two cases are of interest in pointing to the value of prompt action being taken, and to the large amount of care that is required in dealing with such cases.

The first case was that of a man who had "tramped" by stages from Glasgow to Preston, and from thence by train to St. Helens. His own story was that he had been so ill on the street in the latter town that some charitable person had given him his "fare" to St. Helens. He arrived at St. Helens on May 7th, at 1 p.m., with the eruption out, and well marked. The case was notified on the same afternoon, at 6 o'clock, and within two hours he was removed to Old Wint Small Pox Hospital. The remainder of the occupants of the house were removed to Peasley Cross, where they were accommodated with beds and baths while their clothing was being disinfected, and their house fumigated and afterwards whitewashed. Most of the inmates were re-vaccinated, as also were 6 relatives who had been in contact. This patient developed Confluent Small Pox and died on May 15th.

A sister of the above patient was accidentally found to be suffering from Small Pox on May 30th. She had apparently been in hiding for several days before she was discovered. She was removed to Hospital, and the house and clothing again disinfected and cleansed. She had a mild attack and was discharged from Hospital after 19 days. She contracted the disease in an interesting manner. It appears that this woman had been in jail during the first part of her brother's illness, and the sanitary officers had no knowledge of her existence or connection with the infected house. On the 14th day the first case appeared to be dying and, accordingly, his friends were communicated with, and a written permission was given to his mother

(an old woman who had been re-vaccinated) to visit him at Old Wint. It appears that the permission was handed to his sister, who presented it at the Hospital and was admitted. Nothing was known of this until the sister developed Small Pox. Had the sister applied for an admission for herself she could have obtained one, provided she had been re-vaccinated first.

VACCINATION.

The following table shows the Vaccination returns for 7 years. It compares favourably with that of other towns.

YEARLY RETURNS ON VACCINATION FOR 7 YEARS IN
ST. HELENS.

YEAR	1 Births. *	2 Vaccin- ated.	3 Insus- ceptible	4 Dead.	5 Postpon'd	6 Removed	7 Un- accounted	Percentage not Vaccinated including columns 5, 6, 7
1886	2616	2180	2	320	17	92	5	4.3
1887	2559	2118	—	331	14	91	5	4.2
1888	2660	2226	1	316	12	100	5	4.3
1889	2774	2279	4	319	16	107	11	4.8
1890	2669	2167	4	369	24	99	6	4.8
1891	2827	2328	15	381	12	81	10	3.6
1892	2817	2420	6	317	1	62	11	2.5
†1893	2856	2341	13	367	17	91	27	4.1

* These Returns apply to St. Helens Sub-district and not to the whole of the Borough,

† The figures for 1893 in Columns 5 and 6 will still further be reduced.

The percentages of children not vaccinated are lower than in many manufacturing towns similar to St. Helens. To a large extent the good result is due to the able way in which the late Dr. McNicoll discharged this part of his work. It is of the highest importance that a Public Vaccinator should be a man in whom implicit confidence can be placed. By judicious action, Dr. McNicoll was able to avert a great deal of "feeling" against this operation.

MEASLES.

This disease became prevalent in Parr Mount District during September, October, November, and December, and caused 21 deaths.

The following figures show the past history of Measles in St. Helens compared with similar figures for the whole of England and Wales.

		1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	Mean of 13 years
ST. HELENS	Total Deaths from Measles ..	250	3	145	70	102	53	41	75	16	54	23	135	21	76
	Death Rate per 000 ...	4.10	.04	2.35	1.11	1.58	.80	.61	1.09	.22	.75	.31	1.8	.27	1.15
England & Wales Death Rate ..		.48	.34	.41	.52	.43	.59	.34	.50	.43	.43	.30	.30	.37	.385

It therefore appears that the death rate from this disease is considerably below the average for the previous 13 years, and also is below the rate for the whole of England.

As the 21 deaths, which occurred from Measles during the year, formed the commencement of an epidemic which spread into 1895, it will be necessary to record briefly the history of the commencement of this epidemic. One death occurred in March of 1894, the next death was registered as occurring on October 3rd.

No intimation as to the prevalence of Measles was obtained until the end of October. Between the 5th and 10th enquiries were made, and it was found that a considerable number of cases of Measles existed, all of which were confined to Parr Mount District. Accordingly, house to house visitations were made in this district, and it was found that 84 cases of Measles existed in 495 houses visited. Of the 84 children suffering 75, or 89·2 per cent., either attended or had brothers attending Parr Mount National School. This state of affairs was reported to your Committee on October 10th, and an order was made out on the same day to close the School. All the affected houses were regularly visited. A handbill was left at every house, of which the following is a re-production:—

COUNTY BOROUGH OF ST. HELENS.

MEASLES.

Many Children in this District are affected with Measles.

Attention to the following will prevent the spread of this VERY DANGEROUS Infectious Disease.

I.—Measles generally begins with sneezing, coughing, and “running at the nose and eyes.” It is highly Infectious during this stage—even before any “rash” comes out.

II.—Every Child suffering, or suspected to be, in the beginning stage should be kept in a warm room, and away from other children.

During the first four months in 1893 no less than 121 children died from Measles in St. Helens. In most of these cases death was due to Catching Cold during the attack of Measles.

III.—It is a PUNISHABLE OFFENCE to allow any Child suffering from Measles to appear in any Street or Public Place.

IV.—Children from an Infected House must not, under any condition, attend School; and the house should be disinfected when the attack is past.

Houses will be Disinfected Free of Charge on application at the Town Hall

JOHN ROBERTSON, M.D., B.Sc.,

Medical Officer of Health.

Town Hall, St. Helens.

The district of Parr Mount is essentially a poor class one, and despite all our efforts, cases of Measles spread to the other two large Schools which are in close proximity to Parr Mount National Schools. The district was visited daily by the Female Sanitary Inspector and new cases were ascertained by her or by the School Attendance Officers. The attendance at

the various classes at these two Schools was obtained once a week, and this showed in a most remarkable manner that the progress of the epidemic was much slower than in former epidemics.

The later progress of the epidemic shows, on comparison with former winter epidemics, that the cases were fewer in number, and that the deaths were also smaller in number. The precautions taken, although they did not altogether stop the spread of this highly Infectious Disease, yet they did modify its severity. The weekly death returns on Table "C" show the number of deaths from Measles during each week.

Not until the beginning of December did any cases appear in other districts of St. Helens. The removal of a family from Parr Mount to the centre of the town was the means of spreading the disease to the Infant Department of one of the largest Schools in the town. On the 15th December, I ascertained that there were no less than 23 children connected with the Infant Department of Lowe House School suffering from Measles. The Infant Department of this School being in a separate building, it was thought desirable to close it for one month, and, accordingly, this was done on the 17th December. At the time of publishing this report (March), 14 deaths had been registered since January 1st, 1895. This number is altogether insignificant compared with former winter epidemics, and especially so when it is remembered that the weather during this period was most severe.

SCARLET FEVER.

Much anxiety was felt during the year lest this disease should become epidemic. It has not been severely epidemic since 1890, and since that time a large number of children have grown to the most susceptible ages. The disease was prevalent in surrounding districts and towns, and was frequently imported. It threatened to become epidemic on more than one occasion during the year, but, fortunately, was checked on each occasion.

Our death rate from Scarlet Fever was $\cdot 18$ per 1000 of the population. For the whole of England and Wales (Rural and Urban Districts) the rate was $\cdot 16$ per 1000.

The death rate from Scarlet Fever in 1894 compares favourably with that in the previous 10 years, as is shewn below.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	Mean of 11 yrs.
Total Deaths	16	13	34	35	11	3	181	24	18	6	14	32·4
Rate per 1000 per anrum	·25	·25	·52	·52	·16	·04	2·52	·33	·24	·08	·18	·46

The total number of cases of sickness from Scarlet Fever which were notified during 1894 was 342, against 237 in 1893, and 438 in 1892.

The ages at which these cases occurred is shown below.

	No. of Cases of Sickness from Scarlet Fever.	No. of Deaths.	Per Cent. of Deaths.
0 to 1 year	7	1	14·2
1 to 5 years	123	10	8·1
5 to 10 years	123	1	·8
10 and upwards	89	2	2·2
TOTAL	342	14	4·09

The cases were distributed over the town, as is shown below. It will also be seen in the Table that the greatest number of cases occurred in Central, North Windle, and Hardshaw Wards,—Wards which suffered but little in the previous years.

WARDS.	No. of Cases of Sickness from Scarlet Fever.				
	1890	1891	1892	1893	1894
Eccleston, North	209	48	58	32	29
Eccleston, South	73	14	28	35	29
Central	141	20	29	24	43
Windle, North	115	18	35	10	81
Windle, South	78	23	27	27	21
Hardshaw	186	25	43	17	46
Sutton, East	244	46	118	13	19
Sutton, West	105	9	48	35	35
Parr	83	7	52	44	39
Totals	1234	210	438	237	342
No. of cases to 1 death..	6·8	9·0	24·3	39·5	24·4

By comparing the above with the Table on page 10 showing the density of population, it will be noticed that practically no relationship exists, as is often supposed, between density of population and Scarlet Fever prevalence in St. Helens. The real causes of its spread in St. Helens are one or more of the following: (1) gross carelessness on the part of parents and guardians; (2) ignorance; (3) unrecognised cases (these are not large in numbers, and will always form a difficulty in dealing with the disease).

It is a very frequent occurrence to find or hear that visits have been paid by neighbours to the sick-room, or that the mother of the affected child has been doing her ordinary calls on her neighbours, or at various shops or other places, without, in the majority of cases, doing anything in the shape of disinfection of her hands or clothing.

It has frequently occurred during the past year that the child suffering from Scarlet Fever has been found playing in the street with others. On visiting the house, the mother was either found to be out and to have left the child unattended, or else she pleaded that the child had gone out unobserved and without sanction.

The present law is inadequate as regards such a disease as Scarlet Fever. Practically, all the Infectious Diseases are dealt with under the same statutes, yet they are widely different from one another, and specially so in the methods to be adopted in dealing with them. It is to be hoped that some such method, as is at present adopted by the Board of Agriculture in dealing with the various Infectious Diseases of lower animals under different regulations, will come into force in dealing with those definitely understood Infectious Diseases in man. It does seem anomalous that so much should be done for the prevention of Small Pox by the Legislature, and so very little trouble taken in regard to Scarlet Fever, a disease which annually causes 20 times as many deaths, and, at least, as much permanent damage to health.

The steps which have been taken in the prevention of Scarlet Fever during the year are those detailed in previous reports.

They are briefly :—

1st—Every house in which a case of Scarlet Fever occurs is visited at once, and a schedule filled, with all particulars as to source of infection, school, business carried on, &c., and any book belonging to the Free Public Library is removed.

2nd—A detailed list of instructions is left, and this is read over to the person in charge.

3rd—A small handbill is left at about 30 houses nearest to the affected one, pointing out that a case of Scarlet Fever has occurred in the neighbourhood, and that, if there are any susceptible children, special vigilance should be observed.

4th—Disinfectants are delivered free at the house every second and third day.

5th—Isolation is in all cases insisted on, (*a*) either in one room of the house, (*b*) or by removal to the Isolation Hospital.

These methods have worked admirably during the year, and have been productive of practically no friction between the Sanitary Authority and the householder.

DIPHTHERIA.

The death rate from Diphtheria and Membraneous Croup, $\cdot 11$ per 1000 per annum, was less than in any previous year in St. Helens, and was below the rate for the whole of England and Wales, which was $\cdot 28$ per 1000 per annum; while the number of deaths was the lowest ever recorded. The number of cases of sickness from these diseases was rather more numerous than in any year since 1890.

The following tabular statements show the deaths and cases of sickness per annum, and the distribution of the cases of sickness.

Year.	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
Deaths.	11	11	11	10	11	21	29	13	9	12	18	9
Cases of Sickness.	Before Notification Act.							104	69	81	79	86

DISTRIBUTION OF CASES OF SICKNESS FROM DIPHTHERIA AND MEMBRANEOUS CROUP.

WARDS.	1890	1891	1892	1893	1894	Total 5 years
Eccleston, North ...	8	8	14	9	7	46
Eccleston, South ...	9	3	3	6	8	29
Central ...	5	9	5	7	5	31
Windle, North ...	12	15	6	13	20	66
Windle, South ...	23	10	15	6	3	57
Hardshaw ...	12	4	6	16	9	47
Sutton, East ...	17	8	10	15	9	59
Sutton, West*	8	7	12	4	10	41
Parr ...	10	5	10	3	15	43
Totals ...	104	69	81	79	86	419

* Including deaths in Fever Hospital.

The mortality among children under 1 year was 50 per cent.

,,	,,	,,	1 and under 5 years was	21·4	per cent.
,,	,,	,,	5 „ 10 „	13·3	,,
,,	,,	,,	10 years and upwards	0	,,

Diphtheria has shown a tendency to increase in many towns during recent years, while in rural districts a decrease has taken place. No increase has taken place in St. Helens however.

The origin of cases of Diphtheria has been most carefully enquired into during the past year, and the results of such enquiry are on the whole unsatisfactory. It was found impossible to trace the infection to a previous case of Diphtheria in more than 31 per cent. of cases. In a considerable number of investigations, however, previous cases of mild sore throat were found to have existed in the house, or in persons coming in contact with the patient. From a knowledge of the recent discoveries in the Bacteriology of the disease, it was decided to examine as many cases of doubtful sore throat as possible, with a view of ascertaining the presence of the *Bacillus Diphtheria*. This was done through the kindness of many medical attendants who sent this material for examination.

The results are briefly as follows:—

Between November, 1893, and December, 1894, 53 cases of sore-throat or Diphtheria were examined bacteriologically. Some of these cases were examined on 2, 3, or 4 occasions. Of 12 of these cases the clinical history of the case was not sent, but in 9 of these the Diphtheria bacillus was found.

Of the remaining 41 cases, 11 were from patients whose symptoms were those of Diphtheria, and in all of these the organism was found after one or two examinations.

In 30 of the cases, Diphtheria could not be diagnosed clinically, and in 14 of these the bacillus of Diphtheria was found, and in 16 it was not found.

Under ordinary circumstances these 14 cases would not have been notified as Diphtheria, the patients would have freely mingled with friends, and the infected rooms and clothes would not have been dealt with.

It seems highly probable that one of the chief difficulties in tracing the origin of cases of Diphtheria is due to the fact that from the clinical features alone it is sometimes impossible to diagnose Diphtheria.

In actual practice the value of such Bacterial examination appeared to be so great that a system has been arranged, by which all medical men can avail themselves of it whenever a case of "Sore throat" occurs in their practice.

The system is briefly as follows:—

A box containing two Sterilized Swabs has been left at the house of each medical man in the Borough with instructions how to use these, and also with a circular letter pointing out the advantage of such an examination.

The circular letter sent is as follows:—

HEALTH DEPARTMENT, ST. HELENS,

FEBRUARY, 1895.

BACTERIAL DIAGNOSIS OF DIPHTHERIA.

Recent Bacterial Investigations have shown that a considerable proportion of the cases of Pseudo-membraneous and Exudative Inflammations of the Throat and Upper Air Passages, commonly considered as Diphtheria, and having the appearances found in Diphtheria, are not true Diphtheria.

It has also been shown that a considerable number of cases which are apparently false Diphtheria, prove on Bacterial Examination to be true Diphtheria. While in true Diphtheria the mortality is high, and the danger of transmission to others great, in false Diphtheria the mortality is low and the danger of infection slight.

The differential diagnosis between a large proportion of cases of true and false Diphtheria can only be made by a Bacteriological Examination. This examination is comparatively simple and easily made.

In order that such examination can be carried out, the following arrangements have been made for St. Helens :—

- 1.—A box containing the necessary apparatus and instructions for obtaining Cultures has been sent to each Medical Practitioner. This may be used either for making a diagnosis, in confirming a diagnosis, or in ascertaining definitely when the throat of a Diphtheria patient has ceased to be infectious.
- 2.—When a Culture has been taken, the box should be sent with all possible speed to the Medical Officer's Department, where the specimen will be cultivated and examined, and a Certificate sent within about 18 hours, as to whether the case is one of true or false Diphtheria.

JOHN ROBERTSON,

Medical Officer of Health.

Each box is labelled on the outside.

BACTERIAL EXAMINATION OF DIPHTHERIA.

<i>From Dr.</i>	<div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 10px;">{</div> <div> <p>After use, please return without delay to the MEDICAL OFFICER OF HEALTH, TOWN HALL, ST. HELENS. See inside of lid for directions.</p> </div> </div>
----------------------	---

and on the inside of the lid the following instructions are printed :—

DIRECTIONS FOR TAKING CULTURES.

1—A Culture can be made either from a small particle of membrane, in which case the piece of membrane should be placed inside one of the enclosed test tubes.

2—Or by rubbing one of the enclosed Sterilized Swabs over the throat. In order to get the best possible results, the Patient should be placed in a good light, the tongue depressed, and the Swab gently rubbed over any exudation. In cases where the larynx alone is involved, the Swab should be passed far back, and rubbed against the pharynx and tonsils.

3—Replace the Swab in the Test Tube after use.

4—It is important that the Culture should not be made immediately after a Germicide has been applied to the throat.

WHOOPING COUGH.

This disease was specially prevalent during the year. It caused no less than 61 deaths—a larger number than in any year since 1890. The mortality rate per 1000 was .78. In the whole of England and Wales the rate was .39 per 1000 per annum.

Of the 61 deaths 18 occurred in the 1st quarter

18	,,	,	2nd	,,
19	,,	,,	3rd	,,
6	,,	,,	4th	,,

As regards the ages at which this disease was most fatal, it is interesting to note that all of the deaths occurred in children under 6 years of age, and were as follows:—

Ages.				Total Deaths.	Per Centage.
0 to 1 year	...	...		26	42·6
1 „ 2 years	...	...		22	36·0
2 „ 3 „	...	...		7	11·4
3 „ 4 „	...	...		3	4·9
4 „ 5 „	...	...		2	3·2
5 „ 6 „	...	...		1	1·6
Totals				61	100

On Table “D” it will be seen that the deaths were fairly evenly distributed over the whole Borough.

In former years the deaths from this disease were as follows:—

1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
24	9	53	41	28	61	15	68	29	31	18	61

TYPHOID FEVER.

Typhoid Fever caused 26 deaths during the year. The average number per annum during the previous ten years was 31·5. The 26 deaths represent a death rate of ·33 per 1000 per annum, and comparing this with the rates which occurred in previous years, it will be noticed in the following table that, although this is not the lowest rate, it is one of the lowest during the 20 years.

Year.	Rate.	Year.	Rate.
1874	·51	1885	·09
1875	1·05	1886	·43
1876	·99	1887	·51
1877	·60	1888	·31
1878	·62	1889	1·12
1879	·56	1890	·34
1880	·56	1891	·34
1881	·78	1892	·34
1882	·40	1893	·69
1883	·48	1894	·33
1884	·45		
Mean.	·70	Mean.	·45

The following table shows the distribution of deaths in St. Helens during the past 11 years.

WARDS.	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	Total
Eccleston, North	4	1	2	5	7	15	6	6	1	4	2	53
Eccleston, South	2	—	1	1	—	4	1	1	3	5	3	21
Central.....	1	1	5	8	3	7	3	3	1	2	2	36
Windle, North.....	1	—	2	1	1	5	1	1	—	6	2	20
Windle, South	4	—	6	5	1	14	3	3	5	2	—	43
Hardshaw	3	2	5	4	3	4	2	2	2	4	5	36
Sutton, East	3	—	3	4	2	14	3	3	3	3	1	39
Sutton, West *	5	1	1	1	2	9	4	5	6	18	10	62
Parr	4	1	2	4	2	3	1	1	4	8	1	31
Totals	27	6	27	33	21	75	24	25	25	52	26	341

* Including Deaths at Fever Hospital.

The rate of mortality from Typhoid Fever in the whole of England and Wales was lower than usual, being $\cdot 16$ per 1000 per annum in 1894.

In former reports it has been stated that the cases of sickness from Typhoid Fever which recover are equally as important, from a public health point of view, as those cases which die. Each case points to some local source of infection, and each case of sickness is a danger in so far as it may be capable of infecting sewers or privies, or persons directly, and thus indirectly, or directly, spreading the disease.

It will be seen in Table "C" that the deaths occurred mainly during the 1st quarter. No less than 13 occurred during the 1st quarter, 2 during the 2nd, 4 during the 3rd, and 7 during the 4th quarter.

Comparing this with what happened in previous years, we get as follows:—

Year.	Deaths 1st Qtr.	Deaths 2nd Qtr.	Deaths 3rd Qtr.	Deaths 4th Qtr.	Total.
1890	6	4	8	6	24
1891	3	6	5	11	25
1892	5	6	6	8	25
1893	12	1	17	22	52
1894	13	2	4	7	26
Total	39	19	40	54	152

The number of cases of sickness from Typhoid Fever were 172 in number, and these cases occurred throughout the year in a manner as shown below.

Year.	Jan.	Feb	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1890	20	4	7	4	4	12	10	15	31	23	15	5	150
1891	5	5	18	17	11	3	4	31	32	30	16	13	185
1892	7	9	10	18	9	5	14	11	13	11	21	10	138
1893	10	11	18	0	3	10	26	41	73	70	34	19	315
1894	19	11	18	9	6	5	15	17	25	24	11	12	172
Total	61	40	71	48	33	35	69	115	174	158	97	59	960
Qtr.	1st Qtr. 172			2nd Qtr. 116			3rd Qtr. 358			4th Qtr. 314			

The percentage mortality from Typhoid Fever during 1894 was 15·1, against 16·5 in the previous year. The following Table shows the distribution of the cases of sickness from Typhoid Fever over the whole Borough.

WARDS.	1889	1890	1891	1892	1893	1894	Total
Eccleston, North ..	133	22	52	17	36	21	281
Eccleston, South ...	64	22	36	20	22	17	181
Central	46	14	9	12	19	16	116
Windle, North	46	16	11	13	51	29	166
Windle, South	67	10	26	22	40	12	177
Hardshaw	42	9	13	18	57	22	161
Sutton, East	66	14	8	19	10	26	143
Sutton, West	57	24	18	9	33	10	151
Parr	37	19	12	8	47	19	142
Totals ...	558	150	185	138	315	172	1518

The following Table shows the ages at which the various cases of Sickness and Deaths from Typhoid Fever occurred.

	Under 5 Yrs.	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	Over 55	Total
Cases of Sickness..	12	57	47	31	14	10	1	172
Deaths ..	2	4	7	5	4	3	1	26
Percentage Mortality..	16·6	7·0	14·8	16·1	28·5	30·0	100	15·1

Inquiries were made at each house in which a case of Typhoid Fever occurred, and the results of some of these are rather interesting.

Of the 172 cases, 25 occurred in houses under 5 years old, *i.e.*, in new houses, 38 occurred in houses which had been built between 5 and 20 years. No less than 109, or 63 per cent., occurred in houses over 20 years old, *i.e.*, old houses, many of them over 60 years old. These facts are interesting, as they bear out opinions often expressed that Typhoid Fever is a disease intimately associated with filth nuisances, such as old privies, old badly laid drains, etc. Over-crowding was also found to be associated, probably indirectly, with houses in which Typhoid occurred.

In no less than 63 out of the 172 houses, it was found that the occupants had resided for short periods in the house, *i.e.*, under 2 years. It has been repeatedly noted that persons can grow acclimatised to certain filth nuisances, and that, if any fresh family take up their residence in such a house, they are liable to become infected with Typhoid Fever.

REMOVAL OF TYPHOID EXCREMENT.

The following short report was presented to the Health Committee on January 10th, and, as a result, it was decided, to adopt the arrangement proposed.

At the present time the arrangements for Disinfecting Typhoid Excrement are:—

In houses with privy middens the occupier receives a certain amount of a disinfectant from the Corporation, and is supposed to treat the excreta before it is placed in the ashpit. The ashpit is also treated every second day with a small quantity of Carbolic powder by one of the men in my Department. I do not consider that this disinfection is sufficient, and I feel certain that there is a danger to the other inhabitants who have to use the ashpit into which the excreta are thrown. The ashpit, of course, may not be emptied for many weeks after the Fever has abated, and, therefore, the whole contents become more or less infected.

The same applies to the Tub and Pail Closets. The infected excrement is thrown into a pail which is used by other members of the house, and I think there is a danger here also.

What I propose as a remedy is that, in every house where there is a case of Typhoid Fever, a special covered pail should be placed in the yard to receive the excrement and other infectious matter from the patient. This pail should be a closed one, and should be removed twice a week at least. The infectious matter when received at the *Depôt* should be disinfected by being allowed to stand with corrosive sublimate as a disinfectant for 24 or 28 hours.

A better method, however, would be to boil it for a couple of hours in a covered boiler.

In order that as few mistakes as possible might be made the following printed instructions have been sent with every pail.

COUNTY BOROUGH OF ST. HELENS.

INSTRUCTIONS AS TO THE USE OF TYPHOID FEVER PAIL.

1—This Pail is for the purpose of receiving all matters infected with Typhoid Fever.

2—You must therefore put into it all Fæcal Matter, Urine, Washing Water, and Refuse Food which has been in contact with the patient.

3—None of the above infected matters are, under any circumstance, to be thrown down any Drain, or into any Ashpit, Pail Closet, or Water Closet.

4—Keep the Pail tightly closed in your Backyard, and do not allow your Children to play near it.

5—It will be removed as frequently as necessary.

6—It is particularly requested that the above be rigidly adhered to, in order that the danger of Typhoid Fever spreading by means of Infected Sewers, Privies, and Pail Closets should be as little as possible.

JOHN ROBERTSON, M.D., B.Sc.,

OCTOBER, 1894.

Medical Officer of Health.

Each Pail has 2 inches of Carbolic Powder put into it, and is removed at least twice a week to the Depôt, where the contents are burned instead of being boiled as first suggested.

The Health Committee spent considerable time in devising and arranging the best Pail for the purpose, and also the best style of Pail Van for removing these Pails in.

A Map has been prepared showing the situation of the houses in which the 172 cases of Typhoid Fever occurred.

TYPHUS FEVER.

No case of this now rare disease occurred in St. Helens since the doubtful one in 1890 until January, 1894. In all, 7 cases occurred, with 2 deaths, in 4 houses during 1894.

The first house infected was a filthy one, into which two families had crowded themselves during the recent Coal Strike. The infection in this case was undoubtedly imported from the Wigan District, where I ascertained that there were cases at the time, and whither members of this family had gone to look for work.

The first cases were mild, and but for the fact that the later cases were well marked the first one would have been overlooked. Four cases in all occurred in this house, and two other women who had visited from other houses contracted the disease.

Another case of well marked Typhus Fever was notified on April 14th, in the case of a miner, aged 27, living in a purely rural district, at Sutton. The house occupied by the man was not over-crowded—it was clean—and I believe his relations gave every facility in tracing his movements. He had not been out of Sutton for over a month, and had so far as could be traced had no contact with any infected person or district. A good many cases of this disease were occurring in the neighbourhood of Liverpool at the time. No connecting link could be found however.

Removal to Isolation Hospital was insisted on in every case. The other members of the family were temporarily accommodated at Peasley Cross while their wearing apparel was being "steamed" and their house disinfected.

The houses were lime-washed and cleansed after fumigation.

The cases were—

J. C., 25, Wright Street, M., 21 years	{	Both had gone tramping in the Wigan district.
W. J. C., 25, Wright Street, M., 17 years		
Mrs. S., 25, Wright Street, F., 30 years	—Contracted disease from above.	
M. S., 25, Wright Street, M., 30 years	—	„ „ „
C. J., 62, Windle City, F., 20 years	—	„ „ „
R. C., 39, Wright Street, M., 10 years	—	„ „ „
R. M., 13, Sutton Moss, M., 27 years	—Origin not ascertained.	

CONTINUED FEVER.

Three cases of this disease (?) were notified. All were in persons over 5 years of age, and all recovered. It appears that what one Medical man calls Continued Fever another would notify as Typhoid, or put it in the category of simple feverish conditions. It is most unsatisfactory to have so ill-defined a disease in the schedule of the Notification Act.

DIARRHŒA.

The year 1894 has been exceptional in that the deaths from Diarrhœa were half as many as on any previous year on record in St. Helens.

The high death rate from this disease in St. Helens is due to two factors.

1st—A population containing an unusually large number of infants and young children who, when attacked with Diarrhœa, readily die.

2nd—The presence of certain breeding grounds for the organisms which directly or indirectly produce Diarrhœa.

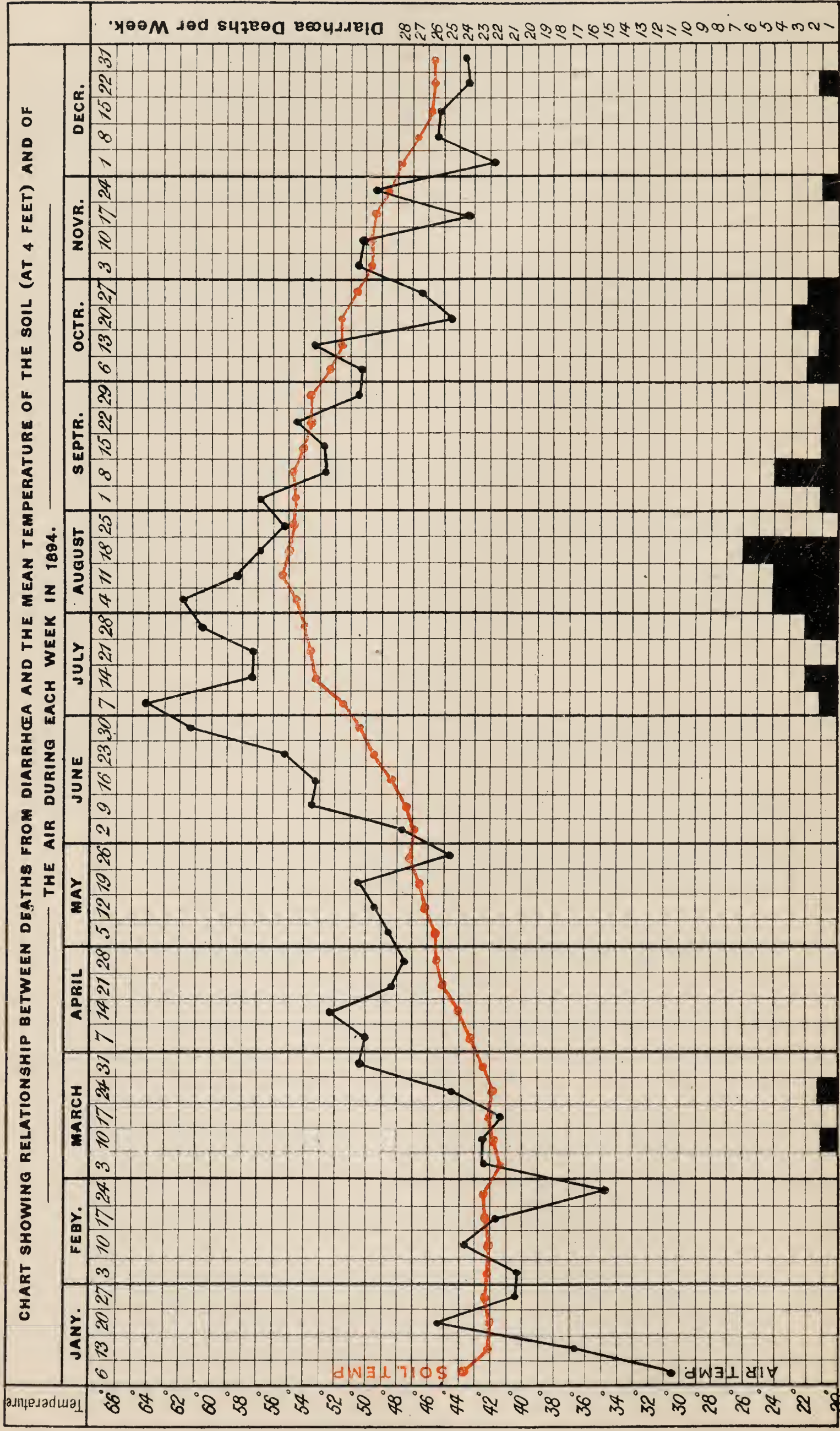
It is, therefore, only under such climatic circumstances as prevailed last year that a low rate from Diarrhœa is to be looked for.

The rates in former years were as follows:—

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
2·12	·89	3·01	1·53	·96	1·27	1·05	1·08	1·14	2·2	·48

Had the high rate which occurred in the hot year of 1893 occurred in 1894, 133 children would have died from Diarrhœa alone who are now alive.

CHART No. 2.



As in former years by far the larger number of deaths occurred during the 3rd Quarter, as is seen below:—

DEATH RATES IN ST. HELENS FROM DIARRHŒA.

	1887	1888	1889	1890	1891	1892	1893	1894
January ..	4	0	2	1	2	2	1	0
February ...	2	1	0	0	1	3	0	0
March ...	2	3	1	0	4	2	2	2
1st Quarter ...	8	4	3	1	7	7	3	2
April ...	1	2	3	2	1	2	1	0
May ...	1	2	2	0	2	1	5	0
June ...	5	1	2	3	4	2	32	0
2nd Quarter ...	7	5	7	5	7	5	38	0
July ...	19	4	28	3	4	10	71	5
August ...	37	14	23	19	11	29	32	14
September ...	23	24	17	26	30	25	21	7
3rd Quarter ...	79	42	68	48	45	64	124	26
October ...	3	10	3	15	13	4	2	8
November ...	4	3	2	4	5	3	1	1
December ...	0	1	2	1	1	1	0	1
4th Quarter ...	7	14	7	20	19	8	3	10
Totals each year	101	65	85	74	78	84	168	38

In order to show how intimately this disease is connected with temperature, the accompanying chart has been arranged, and is strictly comparable with similar ones in former years.

In each case of death from Diarrhœa an inquiry was made as to its probable origin. The following are a few of the more obvious results.

The deaths were almost entirely confined to children under 1 year of age. No less than 30 out of the 38 being under 1 year of age.

The disease proved fatal equally among children who were said to be healthy, and those who were said to have been delicate before the attack.

As in former years, it was found that children who were fed on breast milk did not suffer so severely as those who were fed from the bottle.

In a large number of these cases the food was found to be soured and polluted by a bottle in a filthy condition.

MINOR ZYMOTICS.

INFLUENZA.

Seven deaths were registered as due to this now much dreaded disease—2 being in the 1st Quarter; 2 in the 2nd Quarter; 1 in the 3rd Quarter; and 2 in the 4th Quarter.

All of these deaths were in adults from 25 to 65 years of age.

It cannot, however, be said that any well marked Epidemic occurred during the year such as occurred in previous years with such disturbing results.

ERYSIPELAS.

Erysipelas caused 2 deaths (both in persons between 45 and 55 years of age) among the 75 cases of sickness from this disease which were notified during the year.

The cases were distributed over the Borough as follows:—

WARDS.	1890	1891	1892	1893	1894	Total
North Eccleston ...	6	10	10	11	8	45
South „ ...	3	3	7	9	6	28
Central ...	7	6	9	12	6	40
North Windle ...	4	4	4	5	12	29
South „ ...	4	8	8	10	4	34
Hardshaw ...	4	5	13	8	11	41
East Sutton ...	6	9	6	16	12	49
West „ ...	3	9	8	8	7	35
Parr ...	5	4	11	19	9	48
Total cases of Sickness...	42	58	76	98	75	349
Total No. of Deaths in each year ...	5	2	5	2	2	16

As in former years catching cold was ascertained as the cause in the great majority of cases. Thus, in 41 out of the 75 cases, a specified time when the exposure which produced the disease was given by the patient. In 30 cases the Erysipelas was secondary to some more or less serious abrasion of the skin. It is highly probable that cold plays but the part of a predisposing cause in the production of the disease—the real cause being the introduction of a specific organism. In 17 (or 22 per cent.) of the cases the patient had previously suffered from the same disease. In several cases Erysipelas was said to be of frequent occurrence.

PUERPERAL FEVER.

In former years it has been found that the deaths from this disease were closely associated with the prevalence of Infectious Diseases. Six deaths were registered, and 26 cases of sickness from this disease were reported. Unquestionably, a large percentage of the milder cases go unnotified, chiefly for two reasons:—1st, on account of the fact that probably 90 per cent. of the confinements in St. Helens are conducted by midwives who do not recognise, and who are not ready to report, such cases; and 2nd, on account of the diversity of opinion among Medical men as to what cases are to be included under the above title.

The following shows the notified cases and deaths during the past 5 years.

	1890	1891	1892	1893	1894	Total.
Deaths	6	15	7	10	6	44
Notified Cases ...	11	16	14	19	26	86
*No. of Births to each Death ...	462	194	416	302	480	370

* This does not include Still Births, Abortion, &c.

CLASS II.—PARASITIC DISEASES.

Two deaths only occurred from this Group—1 being from Thrush, and the other from Hydatids.

CLASS IV.—CONSTITUTIONAL DISEASES.

Rheumatic Fever caused 10 deaths, against 6 in 1893, 8 in 1892, and 6 in 1891.

CANCER AND MALIGNANT DISEASES.

The deaths caused from these Diseases were 36 in number, and all occurred in persons between 30 and 70 years of age. The deaths from these causes were in former years as follows:—

1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
25	20	14	8	22	25	27	37	23	36	36

The deaths from Cancer in any organ of the body are referred to this Group. How far the increase during the past five years is due to the better recognition of the disease from improved methods of diagnosis cannot be ascertained, but it is probable that this is a factor in the production of the supposed increase in the cases of Cancer.

TUBERCULAR OR CONSUMPTIVE DISEASES.

Under this heading are included Tabes Mesenterica, Tubercular Meningitis, Hydrocephalus, Phthisis, Scrofula, and other Tubercular Diseases.

These caused 164 deaths during 1894, as compared with 160 in 1893, 160 in 1892, and 177 in 1891. It has been frequently observed by various Medical men that this group was not so prevalent in St. Helens as in some other districts, and various theories have been given to explain its absence from a district where gasses which are peculiarly irritating to the Respiratory Mucous Membrane are present in large quantities in the atmosphere, and where soot is also largely present. It was not possible to compare the mortality in St. Helens from these diseases during 1894 with similar groups in other districts as returns are not yet published. The following table, however, shows that a low rate of mortality does maintain in St. Helens from Phthisis, the rate being lower than that for England and Wales, including all the rural and urban districts, and also lower than the rate in Lancashire with its large rural areas.

PHTHISIS.

Table showing Death Rates per 1000 of the population in Lancashire towns, in the County of Lancaster and in St. Helens from Phthisis.

Years.	Liverpool *	Manchester *	Salford *	Bootle *	Warrington *	Bolton *	Oldham *	Blackburn *	Burnley *	Rochdale *	Preston *	County of Lancaster	England and Wales	St. Helens
1881	2.33	2.46	2.5	1.92	1.20	1.65	2.3	1.9	1.6	2.3	1.9	2.08	1.82	1.76
1882	2.4	2.41	2.4	2.06	1.76	1.66	2.3	1.8	1.7	2.2	1.8	2.05	1.84	1.66
1883	2.6	2.54	2.7	2.24	1.27	1.81	2.3	1.9	1.7	2.9	2.2	2.14	1.87	1.60
1884	2.3	2.34	2.6	2.37	1.50	1.90	2.6	1.7	1.9	1.9	2.1	2.04	1.81	1.92
1885	2.3	2.34	2.6	2.22	1.47	1.78	2.4	1.3	1.8	1.8	1.9	1.95	1.75	1.58
1886	2.4	2.44	2.6	1.52	1.66	1.69	2.3	1.8	1.4	1.4	1.8	1.93	1.71	1.55
1887	2.2	2.19	2.3	1.86	1.29	1.61	2.0	1.5	1.4	2.1	2.0	1.77	1.59	1.36
1888	2.1	2.14	2.3	1.58	1.18	1.64	1.9	1.5	1.2	1.6	1.8	1.69	1.54	1.44
1889	2.1	2.12	1.9	1.48	1.36	1.38	1.9	1.5	1.0	1.8	1.4	1.64	1.54	1.41
1890	2.2	2.33	2.1	1.84	1.68	1.61	2.0	1.8	1.2	2.1	1.6	1.87	1.68	1.79
1891	2.15	2.20	2.2	2.27	1.47	1.56	1.9	1.3	1.4	2.0	1.7	1.81	1.59	1.93
1892	1.9	2.05	1.9	1.80	1.44	1.32	2.1	1.0	1.7	1.6	1.6	1.64	1.46	1.52
1893	2.3	2.05	1.9	1.92	1.28	1.46	1.9	1.0	1.6	1.5	1.7	1.65	1.46	1.45
1894	2.1	1.97	1.8	1.61	1.19	1.39	1.9	1.1	1.9	1.8	1.4	—	—	1.41
	2.24	2.25	2.27	1.90	1.41	1.60	2.12	1.50	1.53	1.92	1.77	1.86	1.66	1.59

* From information kindly supplied by the Medical Officer of Health.

The 164 deaths from Consumptive Diseases were distributed over the Borough as below. It will be seen that the distribution of deaths is uneven, varying from 6·6 per cent. in South Eccleston to 17·7 in Hardshaw Ward. It will also be seen that each Ward has a per centage very similar year by year.

WARDS.	1891	1892	1893	1894	Total	Per Cent.
Eccleston, North ...	25	18	32	16	91	13·7
Eccleston, South ...	9	11	15	9	44	6·6
Central	25	17	11	12	65	9·8
Windle, North ...	21	18	6	17	62	9·3
Windle, South ...	15	19	13	16	63	9·5
Hardshaw	38	22	33	24	117	17·7
Sutton, East	12	18	13	15	58	8·7
Sutton, West	19*	23*	24*	39*	105*	15·8*
Parr	13	14	13	16	56	8·4
Total ...	177	160	160	164	661	100

* Including Deaths from Tubercular Diseases occurring in Rainhill Asylum.

LOCAL DISEASES.

The various Local Diseases are enumerated and tabulated on tables "C" and "D."

It will be noticed that 58 of the deaths from Diseases of the Nervous System were due to Convulsions, and of these, 55 occurred in children under 2 years of age. During the previous year, 51 deaths occurred from Convulsions, all except one of which occurred among children under 2 years of age. Many of these deaths are preventible—errors in rearing the young being the exciting cause of Convulsions in many cases.

DISEASES OF THE NERVOUS SYSTEM caused 172 deaths, against 191 in 1893, 187 in 1892, and 226 in 1891.

DISEASES OF THE RESPIRATORY SYSTEM have a special interest in St. Helens, as these are so often singled out as the type of diseases which are supposed to be produced by the staple trades of the town.

The total number of deaths from this group was 302, against 390 in 1893, 380 in 1892, and 568 in 1891.

The deaths from Bronchitis and Pneumonia are set out below.

	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
Bronchitis ..	167	142	212	170	209	210	221	177	219	232	300	243	215	154
Pneumonia ..	62	96	111	104	115	83	103	87	133	172	218	141	147	118

It will be seen that the numbers for 1894 are unusually low. Of these 272 deaths, 51 per cent. were of children under 5 years of age.

The following figures show the distribution of cases of Bronchitis and Pneumonia over the Borough.

WARDS.	BRONCHITIS.				PNEUMONIA.			
	1891	1892	1893	1894	1891	1892	1893	1894
Eccleston, North ...	39	27	23	31	20	16	14	5
Eccleston, South ...	22	10	12	11	13	10	9	6
Central ...	45	36	29	15	23	12	18	13
Windle, North ...	18	16	20	10	17	18	16	11
Windle, South ...	51	26	20	16	13	8	8	8
Hardshaw, ...	45	26	42	23	33	29	23	15
Sutton, East ...	23	19	28	9	37	23	28	22
Sutton, West ...	33	16	24	22	30	19	17	24
Parr ...	27	24	17	17	31	18	14	14

YEAR.	DEATHS FROM ALL RESPIRATORY DISEASES.	
	All England & Wales	St. Helens.
1882	3.56	3.29
1883	3.67	5.52
1884	3.34	4.51
1885	3.73	6.72
1886	3.64	4.82
1887	3.62	5.31
1888	3.50	4.54
1889	3.30	5.37
1890	4.12	5.78
1891	4.47	7.81
1892	3.96	5.18
1893	3.60	5.17
1894	—	3.89
Mean	3.70	5.30

DISEASES OF THE CIRCULATORY SYSTEM caused 74 deaths, against 67 in 1893, and 68 in 1892.

DISEASES OF THE DIGESTIVE SYSTEM caused 116 deaths, against 147 in 1893, and 132 in 1892. No less than 81 of these deaths were in children under 3 years of age, *e.i.*, 69 per cent. This group is one which fluctuates greatly from year to year, according as the climatic conditions during summer are favourable, or otherwise, to it.

The other groups of Local Diseases do not call for comment.

DEATHS FROM VIOLENCE.—The comparative numbers during the 4 years are given below.

	1891	1892	1893	1894
Accident or Negligence...	56	56	43	55
Homicide	0	0	1	1
Suicide	4	2	5	7
Total	60	58	49	63

DEATHS FROM ILL-DEFINED OR NOT SPECIFIED CAUSES.—This very unsatisfactory group contained 142 deaths, against 154 in 1893, 137 in 1892, and 167 in 1891. It is sincerely to be hoped that the law relating to death certification will be so amended as the result of the labours of the recent Royal Commission that this group will be, practically, abolished in future.

ISOLATION HOSPITAL.

This most valuable institution has done good work during 1894 in checking the spread of infectious disease. It is not generally understood that the main object of such an Institution is (while giving skilled nursing and treatment), “to remove from the houses cases of illness which by their infectiousness are a danger, not only to the inmates, but to all who come in contact with such inmates.” Such an institution is, therefore, primarily of benefit to the town, and secondarily to the individual.

On March 19th, 1894, patients were admitted into the new pavilions for the first time, and on May 1st the Small Pox Hospital was completed. These two additions to our former Hospital accommodation were much needed, and already they have been of real help.

The additions at Peasley Cross consisted of the purchase of extra land in 1893, the erection of a good boundary wall, and the building of two new Pavilions, each with accommodation for 12 beds. These Pavilions were erected in the most favourable weather, and the whole work was of the best quality obtainable. The cost of the new buildings at Peasley Cross and Old Wint amounted to £4,800.

The accommodation for infectious cases now amounts to 24 beds for Small Pox at Old Wint, and adequate accommodation for caretaker and nurses; also of 40 beds at Peasley Cross for other infectious cases. These 40 beds are arranged in 3 pavilions, containing 7 wards in all. At the time the subject of the need of additional accommodation was presented, it was pointed out, that such extra pavilions would necessitate additional accommodation for the staff in the administration block. The administration block does not contain sufficient accommodation for all that is required of it. It is, for instance, inadvisable to get in a washerwoman and

charwoman by the day. It would be more economical and better from a Sanitary point of view to keep an additional maid for these purposes, and thus prevent infection even being carried out of the building. Such cannot, however, be done at present for want of bedroom space. The necessity of a much larger store-room accommodation has been felt. At present, too, the bedroom accommodation for nurses and servants is too limited for the number required. In an Infectious Hospital both nurses and servants should be well housed and well fed, in order that they may always be kept in a condition to resist infection as far as possible.

It is satisfactory to report that the improvements which have been made at the Hospital have been appreciated by the general public, and that there is certainly less trouble in getting persons to avail themselves of this means of isolation.

HOSPITAL WORK.

The following shows the percentage of cases of Infectious Diseases which were admitted during the years 1890 to 1894.

1890	...	8·4	per cent. admitted to Hospital.		
1891	...	18·4	„	„	„
1892	...	17·1	„	„	„
1893	...	18·65	„	„	„
1894	...	22·50	„	„	„

The following gives the yearly number of admissions since the Hospital was opened in 1881.

			Admitted.			Died in Hospital.
1882	...	...	9	...	...	3
1883	...	...	14	...	...	1
1884	...	...	36	...	...	6
1885	...	...	9	...	...	0
1886	...	...	17	...	...	3
1887	...	...	38	...	...	11
1888	...	...	25	...	...	4
1889	...	...	116	(Enteric Fever Epidemic.)	...	15
1890	...	...	128	(Scarlet Fever Epidemic.)	...	20
1891	...	...	89	...	...	10
1892	...	...	134	...	...	15
1893	...	...	150	...	...	25
1894	...	...	182	...	...	22

Two of the above 182 patients were admitted from Haydock, and 2 patients were sent from St. Helens to Old Wint Hospital. The total number of days that patients spent in Hospital was 6184, or about 34 days per patient.

The details of the cases during 1894 are given below.

	Males.	Females.	Totals.	Deaths.	Average Duration of Cases in Hospital.
					Days.
Small Pox	1	1	2	1	15·0
Scarlet Fever	38	40	78	5	42·3
Diphtheria	5	5	10	3	8·9
Enteric Fever	44	28	72	9	32·9
Typhus Fever	5	2	7	2	16·4
Erysipelas	2	3	5	—	25·4
Other Diseases (Including Observation Cases)	6	2	8	2	18·3
	101	81	182	22	

REMOVAL OF INFECTIOUS PATIENTS AND CLOTHING.

A report was presented on this subject on 27th June, 1894, pointing out the fact that since the erection of the New Steam Disinfecting Apparatus, a much larger amount of clothing had to be dealt with, and, as a result the Van-shaped Ambulance was unsuitable for both Patients and Clothing. As a result of this report, your Committee recommended the purchase of a Brougham-shaped Ambulance for the removal of patients, the old one to be converted into a van for removing clothing only.

DISINFECTION OF CLOTHING AND HOUSES.

This work has been carefully attended to. Two disinfecting men distribute 15 per cent. Carbolic Powder or Condyl's Fluid every second or third day to houses where an infectious case had been reported. At the termination of each case, the clothing, bedding, &c., was removed to the Steam Disinfecting Apparatus, and the house fumigated with Sulphurous Acid Gas.

The Steam Disinfecting Apparatus has been used on 154 days during the year, and the following are the articles that have passed through it.

Beds	428
Pillows, &c.	831
Blankets, &c.	1261
Other Articles	330
Children's Clothing	1611
Hospital Clothing... ..	1461
Books from Library and Schools	396
	<hr/> 6318

The collection of these articles required 324 journeys of the van, and on these journeys 509 houses were visited.

SANITARY STAFF.

This consists of

The Medical Officer of Health.	
Chief Inspector of Nuisances ...	} These Offices are held by the Surveyor.
Canal Boats Inspector ...	
Three Male Assistant Nuisance Inspectors.	
One Female ,, ,, ,,	
A Meat Inspector.	
An Inspector under the Sale of Food and Drugs Act.	
One Clerk.	
Two Disinfecting Men.	
The Fever Hospital Staff.	

GENERAL SANITARY WORK DURING 1894.

At the fortnightly meetings of the Health Committee a report was presented dealing with the Health Statistics for the previous fortnight, and in these reports special attention was drawn to points requiring consideration.

The following Special Reports were also submitted during the year :—

Report on the Removal of Typhoid Excrement.

Report on the presence of 3 cases of Typhus Fever in St. Helens.

Monthly Reports on the work of the Female Sanitary Inspector.

On the steps taken to check the spread of Scarlet Fever.

On Houses Sub-let in Lodgings.

On the Removal of Patients and Clothing from Infected Houses.

On the Prevalence of Typhoid Fever in Eldon Street District and in Watery Lane District.

On the Prevalence of Measles at Parr Mount.

On the Prevalence of Typhoid Fever at Junction Lane.

SEWERAGE, DRAINAGE, AND SEWAGE DISPOSAL.

Very extensive Sewerage and Draining Works have been undertaken during the year. The contract for extending the Main Intercepting Sewer from Ashcroft Street to the Double Locks was more than half completed during the year.

The extensive Sewering operations in the new area of the Borough, *e.i.*, Denton's Green, were also well advanced.

WATER SOFTENING WORKS.

Samples have been taken from these works daily, and tested as to their hardness, by the Medical Officer of Health. Each sample is obtained by allowing the softened water to drop for twenty-four hours into a glass vessel. At the end of this time, the contents are well mixed, and the sample taken. In this way a true sample is obtained.

The 3 well waters which go to the Softening Works contain 26, 22, and $18\frac{1}{2}$ degrees of hardness respectively.

			No. of Samples Tested.			Mean. Hardness.
January	...	...	19	...	...	13·4°
February	...	...	25	...	...	15·8°
March	...	...	30	...	...	13·8°
April	...	...	25	...	...	14·0°
May	...	...	36	...	...	13·9°
June	...	...	18	...	...	13·5°
July	...	...	26	...	...	13·8°
August	...	...	31	...	...	14·0°
September	...	...	29	...	...	13·3°
October	...	...	35	...	...	14·1°
November	...	...	26	...	...	13·6°
December	..	...	35	...	...	14·70°
Total			335	Mean for year		13·99°

ALKALI AND OTHER CHEMICAL WORKS AND ALKALI WASTE HEAPS.

Year by year improvement takes place in the management of these works, and it is satisfactory to know that they have kept well within the standard limits as to the illimitation of noxious gasses or noxious effluents.

Owing to the fact that a very small quantity of Alkali Waste has been deposited containing sulphur, it was not found necessary to inspect the heaps so regularly last year as in previous years.

21 visits were made, against 80 during the previous year.

The number of inspections of the effluent drains from the chemical works was 130. On 37 occasions, slight escapes of acid were detected. Whenever such was the case a letter was sent to the United Alkali Company and to H. M. Inspector of Alkali Works.

DAIRIES, COWSHEDS, AND MILKSHOPS.

The inspection of these is carried out by the Police Inspectors.

On December 31st, there were 203 on the register, against 191 on the same date in 1893. During the year 20 premises have been registered as suitable for the above, and each of these have been examined by the Medical Officer before registration.

On the 2nd day of May the new regulations, made under the Dairies, Cowsheds, and Milkshops Orders of 1885 and 1886 came into force.

It is highly desirable that such regulations should be in operation in the large rural districts from which our milk supply is derived, otherwise our district will still receive milk from insanitary shippens.

Regulation No. 5 which requires that every cow should have 800 cubic feet of air space in a shippen has been one which has caused the largest amount of alterations in shippens. The want of uniformity in respect to this particular regulation is a hardship on Dairymen at the present time.

PROPERTY UNFIT FOR HUMAN HABITATION.

The following is a list of houses which have been closed by order of the Health Committee during 1894.

28, Liverpool Street—House in generally dilapidated condition.

58, Phythian Street—House rendered dangerous on account of Sulphuretted Hydrogen from Sub-soil Water.

70, Parr Stocks Road and houses at back

72,	"	"	"	} Back to back-houses in a generally dilapidated condition.
74,	"	"	"	
76,	"	"	"	
78,	"	"	"	
80,	"	"	"	
82,	"	"	"	

8, Wood Street

10,	"	} General dilapidation.
12,	"	
14,	"	
16,	"	

8, Copperas Street

13,	"	} General dilapidation.
15,	"	
17,	"	
19,	"	

8, John Street

10,	"	} General dilapidation.
12,	"	
14,	"	
16,	"	

Total 26, against 27 in 1893.

CANAL BOATS ACTS.

The following is a copy of the Annual Report of the Inspector under this Act to the Local Government Board.

In compliance with section 3 of the Canal Boats Act, 1884, I have to present to you my annual report as to the execution of the Canal Boats Acts, 1877 and 1884, for the year ending 31st December, 1894.

(1.) The Corporation of St. Helens have appointed me to be Inspector under the Canal Boats Acts in addition to my duties as Borough Surveyor and Chief Inspector of Nuisances. No special remuneration is made for my duties under the Canal Boats Acts.

(2.) The number of boats inspected in 1894 was 22, against 9 in 1893. This small number of inspections is due to the fact that the canal is used less extensively now than previously. The short length of the Canal within this registration district was closed for traffic, either on account of the Canal being empty for repairs, or blocked by ice on 30 days during 1894.

(3.) Of the 22 boats inspected during the year, two were found to contravene Section 3 of the Act of 1877, by having no certificate on board. Cautions were given and these were attended to; and one of these boats having no certificate was found to be carrying an offensive cargo without double bulkheads. A caution was given and this offence did not occur again. No other infringements of the Acts occurred during the year.

(4.) It was not necessary to take any legal proceedings for infringements.

(5.) Nor was it necessary to take any other steps to secure compliance with the Acts or Regulations.

(6.) No case of Infectious Disease was discovered on any Canal Boat during the year, nor was any case reported to the Medical Officer of Health.

(7.) It was not found necessary to detain any boat for cleansing or disinfection.

(8.) No boats are at present on the Register.

(9.) No boat was registered during 1894.

I herewith append a table showing the foregoing facts.

I am, gentlemen,

Your obedient servant,

GEO. J. C. BROOM.

BLACK SMOKE NUISANCE.

115 chimneys were "timed" during 1894 for periods lasting from a few minutes to over an hour.

It was considered by the Health Committee that if Black Smoke issued from any chimney for a longer period than 5 minutes at one time, that a nuisance that was preventible was thereby caused.

On taking observations of certain chimneys for a period of half-an-hour to 1 hour, it has several times been found that a chimney emitted Black Smoke for 4 or 5 minutes, with only a short interval between the emissions.

Of the 115 observations taken, in 39 Black Smoke was sent out for over 5 minutes. The longest time being 25 minutes.

In each of these 39 cases, the works were communicated with, and a reply obtained as to the cause.

SWINE FEVER.

Many new regulations came into operation during the year, regarding this disease. The chief of these being that the reporting of and dealing with them is now in the hands of the Board of Agriculture.

In each outbreak the pig has been destroyed in the destructor, and all dung and other infected material similarly treated. It is interesting to note that the number of outbreaks were smaller in number owing chiefly to the increased precautions adopted. 1894:—10 outbreaks. 1893:—48. 1892:—23. 1891:—57.

OFFENSIVE TRADES.

The following offensive trades are on the register:—

Tripe Boilers	...	...	...	...	...	7
Gut Scrapers	...	...	...	...	...	1
Manure Manufacturers	...	...	...	...	...	1
Soap Boilers	...	...	...	...	...	1
Total						10

The premises of each of the above have been regularly inspected during the year. One Tripe Boiler was fined 2/6 and 10/- costs, for carrying on business in premises not authorised.

COMMON LODGING HOUSES.

There are 19 Registered Common Lodging Houses in St. Helens, against 20 in the previous year. These contain 75 Registered Sleeping Rooms, having beds for 263 lodgers.

These have been inspected regularly during the day by the Nuisance Inspectors, and at night by The Police.

Proceedings were taken against a keeper of one house, for not complying with the Bye-laws in respect to cleanliness and ventilation. A fine of 5/- and costs was imposed.

On April 25th, the Revised Byelaws on the model of the Local Government Board Model Byelaws, were approved by the Health Committee. They were sent to the Local Government Board for approval, but this has not yet arrived.

HOUSES SUBLET IN LODGINGS.

Byelaws were approved by the Health Committee, for the above, on the same date as those for the Common Lodging Houses, but as yet they have not been returned from the Local Government Board Offices.

SLAUGHTER HOUSES.

There are at present 20 Licensed Slaughter Houses in the Borough, including the one under the control of the Corporation, and there is one Knacker's yard.

Licenses were granted in respect of one new premises, and 6 licenses for premises previously occupied.

It is satisfactory to report that the land in Foundry Street has been acquired by the Corporation for the erection of a Public Abbatoir to replace the present insanitary and greatly insufficient Corporation Slaughter House.

On the 20th April an inquiry was held by the Local Government Board into the application made by the Corporation for borrowing the necessary money.

The following figures show the number of Cattle Beasts killed in the Corporation Slaughter House and in the rest of the Borough.

Year.	In Corporation Slaughter House.		In other Slaughter Houses.	
1889	...	117	...	2470
1890	...	276	...	2429
1891	...	995	...	2714
1892	...	959	...	2959
1893	..	1321*	...	2859
1894	...	1203*	...	2847

* Owing to want of accommodation, butchers had to kill elsewhere who would have killed here.

The following gives the number of Animals slaughtered in St. Helens during 1894, and four preceding years:—

ANIMALS KILLED.					1890	1891	1892	1893	1894
No. of Beasts killed within the Borough in public and private slaughter-houses for market purposes					2705	3709	3918	4180	4050
„	Sheep	...	...	..	4335	3923	3370	4264	3614
„	Calves	...	...	...	307	371	369	1281	588
„	Pigs	...	...	..	1304	774	872	772	3410
„	Lambs	...	...	...	987	1155	1015	1101	871
Total					9638	9932	9544	11598	12533
Beasts killed in the Corporation slaughter-house, which are included in the above number					276	995	959	1321	1203

INSPECTION OF DEAD MEAT.

This has been periodically carried on by the Meat Inspector. Practically, the whole of the meat that has been killed in St. Helens has been inspected by him before being put on the Market.

The following table gives the amount of the various articles that have been seized during each year as unfit for human food.

MEAT, &c., CONDEMNED AS UNFIT FOR HUMAN FOOD.

Articles.	1890	1891	1892	1893	1894
Meat
Fish
Mussels
Herrings
Rabbits
Fowl
Geese
Prawns
Haddock
Kippers
Shrimps
Ducks
Mackerel
Milk
Tripe
Tongues
German Yeast..
Cow Heels

Proceedings were taken against the undermentioned:—

- 1.—Against a Butcher for having portions of a diseased pig exposed for sale. Fined £2 and costs.
- 2.—Against a Butcher for having a diseased beast deposited for the purpose of preparation for sale. Fined £5 and costs.
- 3.—Against a Farmer for having a diseased carcase deposited for the purpose of preparation for sale. Fined £5 and costs.
- 4.—Against a Butcher for having diseased meat exposed for sale. Fined £1 and costs.
- 5.—Against a Butcher for having deposited for the purpose of preparation for sale, the carcase of a diseased beast. Fined £10 and costs.
- 6.—Against a Fishmonger for having bad fish exposed for sale. Fined £1 and costs.
- 7.—Against a Fishmonger for having bad fish exposed for sale. Fined £1 and costs.
- 8.—Against a Fishmonger for having bad mussels exposed for sale. Committed six weeks to prison without the option of a fine.

SALE OF FOOD AND DRUGS ACT.

49 Samples were purchased during the year, and 9 of these were found to be adulterated. During the past 6 years the number of articles sent for analysis have been as follows:—

Number of Samples taken.						Articles Purchased.
1889	1890	1891	1892	1893	1894	
24	33	30	23	23	25	Milk
19	8	11	9	6	12	Whiskey
9	14	15	23	—	12	Butter
1	—	—	1	—	—	Bread
1	—	—	—	—	—	Cream of Tartar
1	1	—	1	—	—	Coffee
1	1	1	—	—	—	Cheese
2	—	—	—	—	—	Vinegar
2	—	—	—	—	—	Cocoa
2	3	7	1	—	—	Lard
—	2	—	1	—	—	Pepper
—	—	—	1	—	—	Beer
—	—	—	1	—	—	Mustard
62	62	64	61	29	49	Total number of Samples.
17·7	3·2	14·0	4·9	10·3	14·3	Percentage of adulterated samples

The following table gives the nature and extent of the Adulteration during the year :—

No.	Date.		Name.	Remarks.
1	July	4	NewMilk	Genuine
2	"	"	NewMilk	Genuine
3	"	"	do.	Contains non-fatty solids, 10·32; fat, 2·20; ash, ·61. At least 5 ⁰ / ₀ of fat has been extracted. Fined 2/6, and 4/6 costs.
4	"	"	do.	Genuine
5	"	"	do.	Genuine
6	"	"	do.	Genuine
7	"	21	do.	Genuine, but rather of poor quality
8	"	"	do.	Genuine
9	"	"	do.	Genuine
10	"	"	do.	Genuine
11	"	"	do.	Genuine
12	"	"	do.	Genuine, but of the poorest quality
13	"	"	do.	Genuine
14	Sept.	11	do.	Genuine
15	"	"	do.	Genuine
16	"	"	do.	Genuine
17	"	"	do.	Contains solids, not fat, 7·43; fat, 3·14; ash, ·55; 12·6 ⁰ / ₀ of added water. Case dismissed.
18	"	"	do.	Genuine and rich
19	"	"	do.	Genuine
20	"	17	Whiskey	Genuine
21	"	"	do.	26·6 ⁰ / ₀ under proof, or 1·6 ⁰ / ₀ too weak
22	"	"	do.	Genuine
23	"	"	do.	Genuine
24	"	"	do.	29·8 ⁰ / ₀ under proof, or 4·8 ⁰ / ₀ too weak. Fined 10/-, and 11/- costs
25	"	"	do.	Genuine
26	Octr.	8	do.	Genuine
27	"	"	do.	4·25 ⁰ / ₀ too weak. Fined 10/-, and 11/- costs, or 14 days
28	"	"	do.	Genuine
29	"	"	do.	·9 ⁰ / ₀ too weak. No action taken
30	"	"	do.	Genuine
31	"	"	do.	$\frac{1}{2}$ ⁰ / ₀ too weak. No action taken
32	Novr.	3	Butter	Genuine
33	"	"	do	Genuine
34	"	"	do.	Genuine
35	"	"	do.	Upward of 85 ⁰ / ₀ of the fat was other than butter fat. Fined 10/-, and 10/- costs
36	"	"	do.	Genuine
37	"	"	do.	Genuine, but contains 20 ⁰ / ₀ of water
38	"	17	do.	Genuine
39	"	"	do.	Genuine

No.	Date.	Name.	Remarks.
40	Nov. 17	Butter	Genuine
41	„ „	do.	Genuine
42	„ „	do.	Contains 21 47 ⁰ / ₁₀₀ of added water. Summons dismissed; on ground that milk was not exposed for sale
43	„ „	do.	Genuine
44	Dec. 17	New Milk	Genuine
45	„ „	do.	Genuine
46	„ „	do.	Genuine and rich
47	„ „	do.	Genuine and rich
48	„ „	do.	Genuine and rich
49	„ „	do.	Genuine and rich

BAKEHOUSES.

BAKEHOUSES IN USE IN 1894.

WARDS.			Bakehouses.	Men Employed.	Boys under 10.	Women Employed.
Eccleston, North	...	...	23	14	—	13
Eccleston, South	...	...	18	9	1	11
Central	...	...	29	24	—	27
Windle, North	...	...	8	4	—	7
Windle, South	...	...	15	23	1	8
Hardshaw	...	...	25	29	2	7
Sutton, East	...	...	18	13	1	13
Sutton, West	...	...	4	4	—	—
Parr	...	...	9	9	1	2
Totals	...	...	149	129	6	88

WORKSHOPS, 1894.

WARDS.				TRADES.			
	No. of Workshops.	Men Employed.	Protected Hands.	Tailors.	Dress-makers.	Milliners.	Miscellan.
Eccleston, North	22	14	65	—	18	1	3
Eccleston, South	19	3	23	—	18	—	1
Central	55	34	92	—	20	11	24
Windle, North	—	—	—	—	—	—	—
Windle, South	55	10	82	—	24	8	23
Hardshaw	70	76	177	—	32	7	31
Sutton, East	14	7	19	—	9	—	5
Sutton, West	8	1	11	—	7	—	1
Parr	9	4	9	—	7	1	1
Totals	252	149	478	—	135	28	89

All of the preceding Bakehouses and Workshops have been visited during the year. Each of the Workshops have been measured and the following card filled in and hung upon the wall so that over-crowding might be prevented.

COUNTY BOROUGH OF ST. HELENS

FACTORY AND WORKSHOPS ACTS.

This workroom has accommodation for hands.

When this Workroom is used after 8 p.m. it has accommodation for hands,

At all times the means of Ventilation must be kept in working order, otherwise the above numbers will produce Overcrowding, which will be dealt with under the above Acts.

JOHN ROBERTSON, M.D., B.Sc.,

Medical Officer of Health.

NUISANCE INSPECTORS' WORK DURING 1894.

Systematic house to house inspections have been carried on during the year by the Assistant Nuisance Inspectors, and the following table gives a list of the numbers of cases in which nuisances were found, and for which notices had to be served.

SANITARY NOTICES.

Number of Sanitary Notices served:—

		1890	1891	1892	1893	1894
To clean	Choked Drains or					
	repair Drains ...	298	276	357	447	353
„	„ Filthy Privies ...	49	26	48	57	86
„	„ Backyards and Pas-	}	54	11	46	72
	sages ...					
„	„ Ditches, Cesspools,	}	1	2	5	11
	or Wells ...					
„	provide Slopstones...	—	—	—	28	68
„	„ Privy, Ashpit, and	}	157	179	59	306
	Pail Closet Doors ...					
„	„ Trapped Gullies ...	61	77	91	28	1
„	„ Down Spouts and	}	—	37	14	83
	Eave Spouts ...					
„	„ Ventilation Pipes	}	—	—	19	7
	to w.c. ...					
„	repair Down Spouts and	}	11	39	93	126
	Eave Spouts ...					
„	„ w.c's, Baths, and	}	—	—	40	11
	Basins...					
„	„ Ashpit, Privy, Dwell-	}	150	115	142	272
	ing-house, and					
	Pantry Roofs...	15	150	115	142	272
„	repair Backyards ...	89	239	291	252	193
„	drain Dwelling-houses ...	—	—	—	17	2

	1890	1891	1892	1893	1894
To provide or disconnect or lengthen Slopstone Pipes	17	101	148	144	133
„ provide or disconnect or lengthen Down Spouts...	—	29	2	—	0
„ rehang Privy or Ashpit Doors	—	42	49	92	2
„ caulk Down Spouts	—	9	—	—	0
„ remove Pigs	2	21	14	39	37
„ „ Manure	42	—	16	5	29
„ „ Rubbish	—	—	17	16	18
„ Overcrowding	27	13	37	26	56
„ Miscellaneous	184	237	396	389	229
Foul Ashpits to be reconstructed to Tub and Pail and No. 2 System	435	117	192	196	487
To provide w.c's	—	—	—	3	0
„ „ Ashboxes	—	—	—	—	194
„ repair Privies and Ashpits...	—	—	—	—	96
„ clean and limewash dwelling- house	—	—	—	—	18
	1259	1560	2041	2157	2890

WORK OF THE FEMALE SANITARY INSPECTOR.

It is almost impossible to narrate in detail the work done by the Female Sanitary Inspector. Her efforts have been devoted to the districts where the greatest amount of squalor and filth existed. The following table contains an outline of her work during each month.

	January.	February	March.	April.	May.	June.	July and August.	September.	October.	November.	December,	Total.
Houses visited in the districts of Pocket Nook, Greenbank, Smithy Brow, and Gerards Bridge ..	477	638	963	984	971	996	2446	1770	1250	1200	1012	12707
Instructions given re Feeding and Cleans- ing of Children ..	21	39	53	67	34	105	317	583	491	509	200	2419
Houses limewashed ..	24	20	25	25	22	20	42	21	18	19	30	266
Houses visited respec- ing Measles ..	—	—	—	—	—	—	—	—	1401	231	65	1697

TUB AND PAIL SYSTEM.

The following shows the number of houses which have adopted this system during each year.

	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	Total
Old System ..	49	..	..	..	..	..	..	..	..	..	..	..	49
New Houses ..	..	97	180	352	307	338	349	275	221	268	347	277	3011
Converted Privies } and Ashpits... }	..	161	526	380	328	415	602	435	117	192	196	487	3839
	49	258	706	732	635	753	951	710	338	460	543	764	6899

STATUTES AND ORDERS, &c.,

RELATING TO THE PUBLIC HEALTH WHICH CAME INTO OPERATION IN
ST. HELENS IN 1894.

The Diseases of Animals Act, 1894.

The Local Government Act, 1894.

Circular No. 2, issued February 26th, regarding the taking of Samples for Analysis and setting out results of Analysis made in the Government Laboratory.

Circular No. 16, as to Casual Paupers and Small Pox.

Circular No. 23, as to Cholera Regulations.

Circular No. 24, General Order as regards Bedding from Cholera Infected Ports.

Circular No. 27, General Order regarding Bedding, Clothing, &c., from Cholera Ports.

WEEKLY RECORD OF METEOROLOGICAL CONDITIONS TAKEN
AT VICTORIA PARK.

WEEK ENDING.		Barometer.	Maximum Temp.	Minimum Temp.	Mean Temp	Mean Soil Temp. (4 feet.)	Rainfall (total in.)	WIND.								
								Number of days in each direction.								
								N	E	E	E	S	SW	W	NW	Calm
January	6 ..	30.142	44.0	14.0	30.6	44.0	.02	..	..	2	2	..	..	..	3	..
"	13 ..	20.673	54.0	22.0	36.9	42.8	.23	..	..	..	2	3	2	..	..	..
"	20 ..	29.538	54.0	37.0	45.7	42.2	.55	..	..	..	2	..	4	1	..	..
"	27 ..	29.622	51.0	26.0	40.7	42.8	.44	..	..	..	..	..	4	2	1	..
February	3 ..	29.584	53.0	30.0	40.2	42.6	.95	..	..	..	..	..	1	6	..	..
"	10 ..	29.878	45.0	34.0	43.8	42.5	1.08	..	..	..	..	..	1	5	1	..
"	17 ..	29.742	54.0	32.0	41.8	42.8	1.54	..	..	1	3	..	..	2	1	..
"	24 ..	30.179	46.0	26.0	34.6	42.6	.28	..	..	..	5	..	..	..	1	1
March	3 ..	29.630	53.0	37.0	42.3	41.9	.90	..	..	..	..	..	5	1	1	..
"	10 ..	29.595	50.0	33.0	42.5	42.0	1.07	..	..	..	1	..	1	3	2	..
"	17 ..	29.444	51.0	28.3	41.1	42.1	.80	..	..	..	..	1	..	3	2	1
"	24 ..	30.267	59.0	30.5	44.8	42.0	0	1	..	1	4	..	..	..	1	..
"	31 ..	29.986	65.5	35.0	50.3	42.7	0	..	..	..	7	..	..	..	..	..
April	7 ..	29.941	64.0	35.0	50.0	43.5	.26	..	..	3	4	..	..	..	..	..
"	14 ..	29.768	69.0	39.0	52.3	41.28	.16	..	..	1	4	..	1	..	..	1
"	21 ..	29.709	58.0	35.0	48.1	45.1	.68	..	..	1	2	1	2	..	1	..
"	28 ..	29.597	59.5	35.0	47.7	45.6	.57	..	..	..	4	2	1	..	..	..
May	5 ..	29.973	56.0	38.0	48.5	45.9	.62	..	2	..	..	1	..	..	4	..
"	12 ..	29.707	56.0	40.5	49.3	46.2	1.11	..	..	..	..	2	1	1	3	..
"	19 ..	30.031	61.0	39.0	50.7	46.7	.55	..	..	3	3	..	..	..	1	..
"	26 ..	30.072	64.5	32.0	44.5	47.1	.26	1	1	2	1	..	..	..	2	..
June	2 ..	29.609	63.0	38.5	47.9	47.0	.67	2	..	..	2	1	1	1	..	..
"	9 ..	29.795	62.0	38.0	53.5	47.5	1.15	..	..	2	2	..	1	..	2	..
"	16 ..	29.923	69.0	44.0	53.39	48.6	.34	1	..	..	..	..	1	2	3	..
"	23 ..	29.905	68.0	42.0	55.1	49.5	.16	..	..	..	1	..	3	3	..	..
"	30 ..	30.225	79.0	51.0	61.17	50.4	.11	..	..	3	1	..	..	1	2	..
July	7 ..	30.065	81.5	46.0	64.06	51.9	.89	..	..	..	2	2	..	3	..	..
"	14 ..	29.538	65.0	46.0	57.39	53.3	.93	..	..	..	..	1	2	..	4	..
"	21 ..	29.686	66.0	49.5	57.2	53.7	.94	..	..	..	..	1	1	1	4	..
"	28 ..	29.922	75.0	56.0	60.8	54.01	1.09	1	..	1	4	..	..	1	..	..
August	4 ..	29.751	77.0	49.0	62.0	54.8	2.72	..	..	2	1	1	1	2	..	..
"	11 ..	29.753	67.0	49.0	58.2	55.2	.71	..	..	..	..	..	3	1	3	..
"	18 ..	29.803	66.0	49.0	56.8	55.0	.67	..	..	..	..	..	1	1	5	..
"	25 ..	29.880	65.0	44.0	55.1	54.9	1.01	..	..	2	2	..	1	..	2	..
September	1 ..	30.095	65.0	50.0	56.9	54.6	.01	..	2	..	1	..	..	..	4	..
"	8 ..	30.011	64.5	42.1	52.4	54.7	.37	2	..	1	..	..	..	..	4	..
"	15 ..	30.328	63.0	38.8	52.8	54.0	.0	..	1	1	..	..	..	..	4	1
"	22 ..	30.121	62.5	46.0	54.2	53.6	.36	..	..	6	1	..	..	..	..	..
"	29 ..	29.960	62.0	35.0	50.75	53.4	.17	1	2	4	..	..	..	..	..	..
October	6 ..	30.240	59.9	36.5	50.2	52.4	.0	..	2	2	3	..	..	..	..	..
"	13 ..	30.179	61.5	45.0	53.6	51.8	.52	..	..	..	5	..	1	1	..	..
"	20 ..	29.887	59.3	36.0	44.7	51.6	.96	1	3	2	..	..	..	..	1	..
"	27 ..	29.339	58.5	29.0	46.3	50.3	1.87	..	1	3	2	..	1	..	..	..
November	3 ..	29.595	61.5	41.5	50.6	49.6	.76	..	..	..	3	2	1	1	..	..
"	10 ..	29.613	58.0	41.2	50.0	49.6	1.23	..	..	..	..	1	4	1	1	..
"	17 ..	29.324	54.0	34.0	43.5	49.2	.78	..	..	..	2	2	2	..	1	..
"	24 ..	30.123	55.0	38.7	49.4	48.2	.15	..	..	..	3	3	1	..	..	..
December	1 ..	30.328	50.0	30.0	41.7	47.7	.06	..	2	1	2	..	..	..	2	..
"	8 ..	29.874	46.0	26.0	36.4	46.6	.28	..	..	2	3	..	..	..	2	..
"	15 ..	29.892	55.0	30.0	45.2	45.7	.57	..	..	..	2	..	3	1	1	..
"	22 ..	29.606	52.4	34.0	43.1	45.6	1.07	1	..	..	..	..	1	1	4	..
"	29 ..	30.108	49.0	34.0	43.2	45.6	.63	..	..	..	..	..	1	3	3	..
TOTAL							33.25	11	16	46	86	24	53	48	76	4
MEAN		29.934	55.1	42.4	48.7	48.3										

METEOROLOGY DURING 1894.

JANUARY.—The weather during January was changeable. It was bitterly cold, with easterly or south-easterly winds during the first half of the month, while during the latter half of the month, it was not so cold, the wind was from the S.W. or W., and showers were frequent. Frost was registered on 11 nights during the month. Snow fell on four days. The maximum temperature was 54° on the 12th and 15th, the minimum, 14° on the 6th. The mean temperature of the soil was 42° . Total rainfall, 1.98 inches. South-easterly or south-westerly winds prevailed.

FEBRUARY.—The weather during February was also changeable. It was mild and fine until the 12th, then stormy and cold until the 25th. The maximum temperature was 54° , this temperature being reached on the 8th, 11th and 12th. The minimum temperature was 25° on the 20th. The mean temperature of the soil was 42° . Rain fell on 19 days. Total fall being 3.72 inches. On one occasion .93 inches fell in 24 hours. The prevailing winds were south-easterly and westerly. A strong gale from the west was experienced in St. Helens on the 11th and 12th.

MARCH.—The weather during March was, on the whole, exceptionally fine. There were, during the first half of the month, frequent showers, but between the 15th and the 31st, no rain fell. The maximum temperature was 65.5° on the 28th, the minimum temperature being 28.3° on the 17th. The mean soil temperature was 42.1° . The total rainfall was 2.14 inches, and this amount fell on 10 days. South-easterly winds blew on 12 days. Westerly or north-westerly blew on 13 days.

APRIL.—The weather in April was fine, bright and warm, during the first half of the month, and generally mild, dull and showery, during the latter half of the month. The maximum temperature was 69° on the 12th; the minimum temperature was 25° on the 2nd, 20th, and 23rd. The mean temperature of the soil was 44.7° . The total rainfall was 1.95 inches, which fell on 16 days. South-easterly or easterly winds blew on 16 days. A sharp thunderstorm was experienced on the 4th day of the month.

MAY.—The weather during May was dull, cold and showery, on the whole. The maximum temperature was 64.5° on the 25th. The minimum, 32° on the 22nd. The mean temperature of the soil was 46.6° . 2.56 inches of rain fell on 19 days during the month. Easterly or south-easterly winds blew on 10 days during the month, and westerly or north-westerly on 12 days.

JUNE.—The weather during June was dull, cold and wet, during the first part of the month, but warm and fine after the 15th. The maximum temperature was 79° on the 30th, the minimum, 38° on the 7th. The mean temperature of the soil was 48.8° . Total

rainfall, 2.14°, which fell during 15 days. Easterly and south-easterly winds blew, during 10 days, S.W. or N.W. blew during 18 days.

JULY.—The weather during July was bright and warm during the first week. It was wet, dull and gloomy during the next two weeks, and then fine and clear during the latter part of the month. The maximum temperature was 81.7° on the 2nd. The minimum, 46° on the 4th and 13th. The mean temperature of the soil was 53.3°. 4.13 inches of rain fell, during 18 days, the largest amount being .94 inches on the 24th. The wind was variable during the month. It blew N.W. on 8 days.

AUGUST.—The weather during August was wet, dull and unsettled. The maximum temperature was 77° on the 1st, the minimum was 44° on the 22nd. The mean temperature of the soil was 54.9°. 4.84 inches of rain fell on 19 days during the month. The largest fall of rain being on the 2nd, when the phenomenal amount of 2.11 inches were registered. Between 9, a.m., and 2, p.m., no less than 1.77 inches of rain fell, causing extensive flooding. The wind was S. westerly, westerly, or N. westerly, on 23 days during the month.

SEPTEMBER.—The weather during September was variable, but on the whole, was brighter than during the previous month. The maximum temperature was 64.5° on the 2nd, the minimum temperature, 35° on the 28th. A ground frost occurred during the nights of the 28th, 29th, and 30th. The mean temperature of the soil was 53.9°. Total amount of rain of .9 inches, which fell on 5 days during the month. Westerly and northerly winds prevailed during the first part of the month, while E. and N. easterly winds prevailed during the latter half of the month.

OCTOBER.—The weather during October, was dull and cloudy during the first half of the month, but clear and cold during the latter half. The maximum temperature was 61° on the 12th, the minimum, 29° on the 22nd. The mean temperature of the soil was 51.2°. 3.93 inches of rain fell, of which amount, .95 fell on the 20th. The prevailing winds were E. and S.E., on 20 days. On October 24th, the Barometer fell to 28.750, at 5-30, p.m., and 28.700, at 8-45. On the 28th, it varied between 28.75 and 28.76. A heavy gale blew during this period.

NOVEMBER.—The weather during November, was dull and unsettled. The maximum temperature was 61.5 on the 3rd, and the minimum was 30.5 on the 30th. Frost was registered on one day. The mean temperature of the soil was 48.4°. The total amount of rain was 2.41 inches, which fell during 18 days. The prevailing winds were S.E., S., or S.W. These blew, during 23 days. The grass temperature was below freezing point on 3 days during the month.

DECEMBER.—The weather during December, was dull and variable, but on the whole, was mild. Several severe gales occurred. The maximum temperature was 55° on the 14th, and the minimum, 26° on the 6th. Frost was registered on 7 days. The mean soil temperature was 47.5° . 2.55 inches of rain fell during 18 days. Westerly, S.W. and N.W. winds blew during 21 days. The grass temperature was below 32° on 13 days. Heavy gales occurred on the 16th, 18th, 19th, 22nd and 29th. These did much damage to property, and caused several fatalities.

THE WEATHER DURING 1894, AS A WHOLE.

In view of the fact that the Death Rate during 1894, and the deaths from Diarrhoea and many other diseases, was lower than ever recorded previously in St Helens, it is interesting to note that the chief character of the weather during 1894, was the absence of extremes of temperature. The maximum temperature, the minimum temperature, the soil temperature, and the rainfall, were all lower than what happened during previous years. Most people will remember the weather during 1894, as on the whole, unpleasant; but there is no question, that such weather, without extremes, or without any long period of cold dry weather, or hot mild weather, has a most beneficial effect on the mortality statistics.

RAINFALL
AT ECCLESTON HILL WATERWORKS.

	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894
January	3.51	1.78	3.99	0.98	0.93	0.65	3.17	1.01	1.80	0.89	1.87
February	2.33	2.35	0.80	0.61	0.61	1.53	0.19	0.08	1.54	3.07	4.02
March	2.49	1.94	1.84	1.33	1.89	1.27	2.28	0.76	0.73	0.77	2.21
April	1.07	1.38	1.12	1.06	1.09	1.92	1.31	1.95	1.15	0.39	1.59
May	0.82	2.14	4.25	2.03	0.66	2.47	1.58	2.13	3.36	1.30	2.48
June	2.11	3.32	1.68	0.91	2.54	0.35	2.27	3.39	4.08	1.74	2.23
July	3.30	1.91	3.03	1.17	6.87	2.98	2.43	3.26	3.20	3.32	3.66
August	2.02	1.98	1.74	1.50	3.31	4.75	3.67	6.50	4.15	2.79	4.77
September	3.09	4.58	3.47	5.36	1.56	2.25	1.48	2.92	3.80	3.85	0.72
October	1.49	5.99	4.05	2.37	1.85	2.84	2.09	3.49	6.25	2.18	3.79
November	1.57	3.18	3.04	1.17	4.98	2.49	6.41	2.92	2.44	1.88	2.56
December	3.12	2.18	4.00	2.61	1.89	2.39	0.14	3.93	1.96	3.55	3.44
Totals	26.92	32.73	33.01	21.10	28.18	25.89	27.02	32.34	34.84	25.73	33.34

Information supplied by

MR. J. J. LACKLAND, Assoc. M.I.C.E.,
WATER ENGINEER.

APPENDIX A.

Showing the work done during 1894 in the erection of Buildings and the Paving and Sewering of Streets and Passages.

This information is supplied by

MR. GEO. J. C. BROOM, M.I.C.E.

Plans Deposited and Approved by the Health Committee.

	1890.	1891.	1892.	1893.	1894.
For Dwellinghouses ...	285	238	401	563	310
„ Other Buildings...	90	66	47	35	45
„ Alterations to Existing Buildings	47	49	29	59	73
Total	422	353	477	657	438

The following table shows the several Wards of the Borough in which Buildings have been erected during the year.

North Eccleston	South Eccleston	North Windle	South Windle	East Sutton	West Sutton	Central	Hardshaw	Parr	Total
50	22	66	11	29	83	4	30	46	341

PASSAGES.

Sewering, Levelling, Paving, and Channelling.

Between Rutland Street, Chapel Street, Argyle Street, and Windle Street.

Behind Nos. 89 to 118, Chapel Street.

Between Knowsley Road, Cambridge Road, Grafton Street, and Douglas Street.

Between Rodney Street, Virgil Street, Hanover Street, and Cambridge Road.

SEWERING, LEVELLING, PAVING, AND CHANNELLING.—(Continued).

Behind 45 to 49, Hamer Street.

Behind Ramford Street.

Behind Albert Street.

Behind Nos. 39 to 43, Chapel Street, and Nos. 54 to 68, Argyle Street

Sewering, Levelling, Flagging, and Channelling.

Behind Zion Chapel and Nos. 41 and 43, Hamer Street.

Behind Nos. 5 to 13, King Street.

Behind Nos. 75 to 85, Henry Street.

Behind South Street.

Off Peasley Cross Lane.

Behind St. Thomas Street.

Off Russell Street.

Sewering, Levelling, Paving, Flagging, and Channelling.

Between Boundary Road, Rodney Street, and Hanover Street.

Draining, Levelling, Paving, and Channelling.

Behind Nos. 3 to 13, Rutland Street, and No. 152, Chapel Street.

Behind Nos. 29 to 41, Rutland Street, and No. 155, Argyle Street.

Behind Nos. 51 to 57 Hamer Street.

Off Windle Street.

Behind Phythian Street.

Behind Crossley Road.

STREETS.**Sewering, Levelling, Paving, Flagging, and Channelling.**

Chapel Street (portion of).

Fidler Street.

Sewering, Levelling, Paving, Flagging, Channelling, and Macadamizing.

Grosvenor Road.

Sewering and Draining.

Emmett Street.

Marshalls Cross Road,

Table D.

MORTALITY STATISTICS for Year ending December 31st, 1894, showing Age at Death, and Ward.

DISEASES.	AGES AT DEATH.													WARDS.														
														Ecceleston North.	Ecceleston South.	Central.	Windle North.	Windle South.	Hardshaw.	Sutton East.	Sutton West.	Parr.	Whole Borough.					
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years.										
Zymotic Diseases.																												
(a) MIASMATIC DISEASES.																												
Small Pox ..	..	..	6	9	2	2	..	1	..	..	..	..	..	..	..	..	..	..	..	..
Measles ..	1	..	..	4	4	2	..	1	1	..	..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	1	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..
Typhus Fever ..	..	..	18	22	7	3	2	1	..	..	..	..	..	..	..	..	..	..	..	..
Whooping Cough ..	2	6	1	4	..	1	2	2	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Simple, Continued, or Ill-Defined Fever	..	..	..	..	1	..	..	1	3	4	3	5	4	3	1	..	..	..	..	..			
Enteric Fever ..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	
Influenza..	..	..	..	..	..	..	..	..	..	..	..	1	1	4	..	..	..	..	..	..		
Other Miasmatic Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(b) DIARRHOEAL DISEASES.																												
Simple Cholera ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea ..	..	..	17	4	..	..	..	..	..	..	1	..	2	1	..	..	..	..	..	..		
Dysentry ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) MALARIAL DISEASES																												
Remittent Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ague ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(d) ZOOGENOUS DISEASES.																												
Cow Pox and Effects of Vaccination	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hydrophobia, Glanders, & Splenic Fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28

TABLE D.—CONTINUED.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
(e) VENEREAL DISEASES.																												
Syphilis	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	2
Gonorrhea and Stricture, &c.
(f) SEPTIC DISEASES.																												
Erysipelas	2	..	..	..	..	1	..	..	..	..	..	..	..	1	2
Pyæmia and Septicaemia	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	1	..	2
Puerperal Fever	1	2	1	2	..	..	..	..	..	1	..	..	1	..	3	..	1	..	6
Parasitic Diseases.																												
Thrush and other Vegetable Parasites	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Worms, Hydatids, and Animal Parasites	1	..	1
Dietic Diseases.																												
Want of Breast Milk
Scurvy
Chronic Alcoholism
Delirium Tremens
Constitutional Diseases.																												
Rheumatic Fever & Rheumatism of Heart	1	1	..	..	3	1	..	..	2	1	1	..	..	..	..	2	1	..	1	1	5	..	..	..	10
Rheumatism	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2	..	..	..	2
Gout	1	..	..	..	..	..	..	..	..
Rickets	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	1	6	..	..	..
Cancer and Malignant Diseases..	1	8	8	9	10	..	..	..	5	2	..	3	2	1	4	3	36
Tabes Mesenterica	2	4	5	2	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	2	1	1	3	2	1	3	16	
Tubercular Meningitis	3	5	1	2	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	1	3	1	4	13	
Hydrocephalus	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	
Phthisis	2	..	..	..	..	4	4	7	14	31	29	15	4	..	..	..	10	4	9	11	12	16	9	32	110	
Scrofula & other Tubercular Diseases	1	1	1	4	..	7	2	..	2	3	1	..	1	..	..	..	2	3	2	3	..	3	4	2	23	
Purpura
Ascemia, Chlorosis	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	1
Diabetes	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Other Constitutional Diseases

TABLE D.—CONTINUED.

DISEASES.	AGES AT DEATH.																WARDS.												
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years.	Ecceleston North.	Ecceleston South.	Central.	Windle North.	Windle South.	Hardshaw.	Sutton East.	Sutton West.	Parry.	Whole Borough.	
Developmental Diseases.																													
Premature Birth ..	43	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	7	3	3	7	5	3	3	4	3	43
Congenital Malformation ..	4	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	..	..	..	..	5
Old Age ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	3	18	13	..	3	1	1	2	7	5	2	5	..	..	26
Local Diseases.																													
(a) NERVOUS SYSTEM.																													
1. Inflammation of Brain or Membranes ..	..	8	2	7	5	..	..	3	1	..	..	..	1	..	..	..	..	..	7	..	2	3	2	1	3	2	4	6	27
2. Apoplexy, Softening of Brain ..	..	..	..	..	..	..	..	..	1	1	1	1	1	4	13	16	3	..	3	6	3	1	5	6	7	7	5	5	40
3. Insanity.. ..	..	..	..	..	..	..	..	..	..	..	..	5	13	9	3	..	1	..	1	..	..	..	..	..	29	..	..	31	
4. Epilepsy ..	..	..	..	..	..	..	..	..	..	2	1	1	1	..	..	..	..	..	..	..	..	..	..	..	1	1	1	4	4
5. Convulsions ..	33	9	6	7	1	2	..	..	..	..	..	..	..	..	..	..	..	..	7	4	7	11	8	5	8	5	7	58	
6. Laryngismus St. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
7. Diseases of Spinal Cord, P. A. and Paraphlegia ..	..	..	..	1	..	..	..	..	..	..	..	2	2	2	..	..	..	..	1	..	2	4	..	..	..	..	..	1	1
8. Other Diseases of Nervous System ..	..	..	..	..	..	1	..	..	1	..	..	..	..	2	2	1	..	..	..	1	..	1	1	1	2	2	..	..	11
(b) DISEASES OF SPECIAL SENSE.																													
Eye, Ear, and Nose ..	..	..	1	1	..	..	1	1	..	..	1	..	..	2	..	..	..	..	2	..	1	1	1	1	2	1	2	..	8
(c) DISEASES OF RESPIRATORY SYSTEM.																													
Laryngitis ..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1	..	..	1	1	..	..	2	2	5
Croup ..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	3
Emphysema ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	..	..	2	..	1	1	2
Bronchitis ..	..	..	..	..	1	..	2	2	..	..	2	1	3	14	28	26	11	..	31	11	15	23	16	9	22	17	17	154	
Pneumonia..	13	13	20	18	4	3	6	1	3	1	4	4	4	11	8	4	..	..	5	6	13	15	8	22	24	14	14	118	
Pleurisy ..	7	10	23	23	4	3	1	1	1	1	1	1	1	..	..	..	..	1	1	1	1	1	1	1	1	1	..	6	
Other Respiratory Diseases ..	1	..	4	1	2	..	..	..	..	..	..	..	..	2	2	1	1	2	2	..	2	3	2	2	1	1	1	14	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	

TABLE D.—CONTINUED.

[illegible]

TABLE D.—CONTINUED.

DISEASES.	AGES AT DEATH.																WARDS.											
	0 to 3 ms	3 to 6 ms	6 to 12 ms	1 to 2 yrs	2 to 3 yrs	3 to 4 yrs	4 to 5 yrs	5 to 10 yrs	10 to 15 yrs	15 to 20 yrs	20 to 25 yrs	25 to 35 yrs	35 to 45 yrs	45 to 55 yrs	55 to 65 yrs	65 to 75 yrs	75 to 85 yrs	Upwards of 85 years.	Ecceleston North.	Ecceleston South.	Central.	Windle North.	Windle South.	Hardshaw.	Sutton East.	Sutton West.	Parr.	Whole Borough.
(i) DISEASES OF REPRODUCTIVE SYSTEM.																												
Of Male Organs ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1	..	1	..	..	..	..	..	..
Of Female Organs ..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..
Abortion and Miscarriage ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Convulsions ..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..
Placenta Praevia ..	..	..	..	..	..	..	..	..	..	..	1	3	2	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..
Accidents of Childbirth ..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	1	..	1	..	..	..	1	..	..	..
(k) DISEASES OF BONES AND JOINTS.																												
Caries and Necrosis ..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	3
Arthritis, Ostitis, Periostitis ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Other Diseases of Bones and Joints ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
(l) DISEASES OF INTEGUMENTS.																												
Carbuncle, Phlegmon ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	..	..	..	2
Other Diseases of Integumentary System ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1
Deaths from Violence.																												
(a) ACCIDENT OR NEGLIGENCE.																												
Fractures and Contusions ..	..	..	..	1	1	1	..	..	..	4	4	5	4	5	3	2	1	..	1	2	1	1	2	6	11	1	1	31
Gunshot Wounds ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cuts or Stabs ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Burns or Scalds ..	..	..	1	..	2	1	2	1	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	5	1	2	9	
Poison ..	..	..	..	..	..	..	1	..	..	1	1	..	..	..	1	..	..	..	..	1	..	..	2	..	..	2	2	
Drowning ..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	1	1	..	..	1	..	..	..	5	..	..	5	11	
Suffocation (Gassed) ..	2	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	..	..	..	..	4	
Otherwise ..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28

TABLE D.—CONTINUED.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
(b) HOMICIDE.																												
Manslaughter ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murder ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
(c) SUICIDE.																												
Gunshot Wounds ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1
Cut, Stab ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Poison ..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	1	..	..	..	2	..	..	..	1	2	..	..	..	5
Drowning ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hanging ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otherwise ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Deaths from Ill-Defined and not specified Causes.																												
Dropsy ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Debility-Atrophy ..	61	4	2	2	1	..	1	..	..	1	..	..	..	..	1	1	1	..	11	5	9	12	9	11	..	3	9	75
Marasmas ..	17	8	8	4	..	..	1	2	..	..	..	..	..	..	2	..	2	..	3	..	3	5	2	14	..	4	9	40
Mortification ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	1	1	2	1	..	..	4
Tumour ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Abscess ..	2	1	..	1	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	2	1	2	..	..	..	2	..	4
Hemorrhage ..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
Sudden Death (cause not known)	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	..	..	..	2
Other causes not specified	1	..	..	..	..	..	..	1	3	..	..	1	1	2	1	..	..	..	2	2	2	..	2	2	..	..	..	10
SUMMARY.																												
ZYMOTIC DISEASES ..	13	11	43	44	14	8	5	6	4	6	5	10	7	8	6	1	..	..	22	16	14	16	16	41	15	28	23	191
PARASITIC ..	..	1	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	2
DIETIC ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
CONSTITUTIONAL DO. ..	2	4	12	10	3	7	2	17	8	9	16	38	39	25	14	10	..	..	23	16	16	20	20	38	21	43	19	216
DEVELOPMENTAL DO. ..	47	..	..	..	1	..	..	..	..	..	..	..	..	..	3	8	13	2	12	8	5	14	11	5	7	9	3	74
LOCAL ..	78	66	79	77	19	7	8	19	11	8	17	28	50	69	82	72	20	..	87	54	72	48	70	102	74	130	73	710
DEATHS FROM VIOLENCE ..	2	1	1	1	3	2	3	3	1	6	7	11	5	9	6	2	2	..	3	3	3	3	3	22	8	12	8	65
ILL-DEFINED OR NOT SPECIFIED ..	82	14	10	7	1	..	3	3	3	1	1	1	2	3	6	2	3	..	17	11	15	21	14	30	7	9	18	142
TOTALS ..	224	97	145	139	41	24	21	48	27	30	47	88	103	114	117	95	38	2	165	108	125	122	134	238	132	232	144	1400

TABLE A-

Table of Deaths during the year 1894, in the Urban Sanitary District of St. Helens, Lancashire, Classified according to Diseases, Ages & Localities.

[illegible]

The subjoined numbers have also to be taken into account in judging the above records of mortality.

[illegible]

TABLE B.

Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health during the year 1894, in the Urban Sanitary District of St. Helens, classified according to Diseases, Ages, and Localities.

WARDS. (a)	POPULATION AT ALL AGES.		Estimated to middle of 1894. (c) (e)	NEW CASES OF SICKNESS IN EACH LOCALITY, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH.											NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.					
	Census, 1891. (b)			1	2	3	4	FEVERS.				11	1	2	3	5	6	7	9	11
								Typhus.	Enteric or Typhoid.	Continued.	Puerperal.										Erysipelas.
North Eccleston	8555	9286	Under 5 5 upwds.	..	17	3	1	..	1	..	..	..	..	1	..	..	..	..	..	..
South Eccleston.....	6797	7325	Under 5 5 upwds.	..	12	3	..	..	20	..	4	8	..	1	..	7	..	..	..	1
Central	8219	8321	Under 5 5 upwds.	..	11	2	..	..	2	..	..	1	..	2	..	1	..	..	..	..
North Windle	7481	8333	Under 5 5 upwds.	..	18	6	..	..	15	..	1	5	..	3	..	1	..	..	..	..
South Windle	8438	8580	Under 5 5 upwds.	..	16	3	..	5	16	1	2	5	..	12	..	5	7	..	..	1
Hardshaw	9225	9834	Under 5 5 upwds.	..	27	2	..	..	3	..	..	..	..	14	1	1	12	..	..	1
East Sutton	8250	8981	Under 5 5 upwds.	..	7	..	..	..	2	..	3	4	..	1	..	1	1	..	..	..
West Sutton { Contains Fever Hospital	7418	8270	Under 5 5 upwds.	..	14	3	..	..	10	1	..	..	..	7	..	6	1	..	..	..
Parr.....	8030	8760	Under 5 5 upwds.	..	20	6	..	..	22	1	5	11	..	3	..	10	..	..	..	..
Rainhill Asylum	72413	77690	Under 5 5 upwds.	..	3	7	1	1	1	..	..	12	..	1	..	1	10	..	..	..
TOTAL.....	72413	77690	Under 5 5 upwds.	2	213	55	2	7	162	3	26	72	2	57	6	7	60	1	1	5

Patients suffering from Infectious Diseases are received free of charge into the St. Helens Corporation Isolation Hospitals, situated at Peasley Cross, West Sutton Ward, and Old Wint.

The Compulsory Notification of Infectious Diseases Act was adopted in St. Helens on January 7th, 1891.

TABLE C.--Deaths Registered in the St. Helens Urban Sanitary

CAUSES OF DEATH.	WEEKS.													Total Deaths	WEEKS.												
	1	2	3	4	5	6	7	8	9	10	11	12	13		14	15	16	17	18	19	20	21	22	23			
Small Pox	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Measles	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..
Scarlet Fever	1	..	..	..	..	..	..	1	1	1	4	1	1	..	2	..	1	..	..	..	..	..
Typhus Fever	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
Whooping Cough	3	..	2	..	1	2	1	2	1	1	3	2	18	4	3	1	1	..	2	..	..	1	..	..
Diphtheria	1	1	..	..	..	..	..	1	2	..	..	5	..	..	1	..	..	..	..	..	..	..	..
Simple or continued fever		
Enteric Fever ..	1	1	2	1	1	1	..	1	..	1	..	1	3	13	..	1	..	..	1	..	..	..	..	..	..
Influenza	1	1	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..
Other Zymotics		
Simple Cholera		
Diarrhœa	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..
Dysentery		
Remittent Fever and Ague..		
Hydrophobia, Anthrax, &c..		
Syphilis, &c.	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Pyæmia, &c	1	..	..	..	..	..	..	..	1	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Puerperal Fever	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..
Thrush, &c.	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Want of Breast Milk		
Scurvy		
Chronic Alcoholism		
Rheumatic Fever, &c.	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	2	..	..	1	..	..	..	..	..
Gout		
Rickets		
Cancer, &c.	2	..	..	1	..	..	1	1	..	..	1	6	2	1	1	..	1	1	..	..	..	..	..
Tabes Mesenterica	1	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..
Tubercula Meningites	1	1	..	1	..	1	..	..	..	1	..	..	5	1	1	..	..	..	..	..	1	..	..	..
Hydrocephalus	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..
Phthisis ..	1	3	3	1	1	..	..	1	..	4	2	3	2	21	6	3	5	..	1	3	3	2	5	..	..
Scrophula	1	..	..	..	..	1	..	..	1	..	..	..	3	..	1	1	..	..	1	..	1	1	..	..
Anæmia, Diabetes, &c.	1	..	..	..	..	..	..
Premature Birth, &c.	1	1	1	1	2	3	..	1	1	1	1	1	2	16	..	1	3	..	1	1	..	..	2	..	..
Old Age ..	1	..	..	..	1	..	..	..	1	1	2	..	..	6	2	1	1	1	1	..	1	..	..	..	..
Diseases of Nervous System..	..	3	1	..	2	..	3	..	2	2	2	4	2	21	3	..	4	..	1	2	2	6	3	..	..
Convulsions ..	1	1	..	1	1	1	2	1	1	1	..	..	1	11	2	1	3	1	1	..	..	..	2	..	..
Eye, Ear and Nose	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..
Laryngitis, Croup, &c.	..	2	..	1	..	5	..	1	..	1	..	1	1	12	..	..	1	..	..	..	..	..	..	..	..
Bronchitis ..	4	3	5	4	1	5	1	2	4	7	4	3	4	47	3	4	2	3	2	2	2	2	5	..	..
Pneumonia ..	5	4	1	2	2	3	5	1	3	4	1	3	4	38	3	2	3	2	3	3	1	1	1	..	..
Pleurisy	1	..	..	..	..	..	..
Heart and Blood Vessels	4	2	1	5	1	2	2	1	..	..	1	2	21	1	1	2	..	1	2	..	1	..	..	..
Dentitions ..	1	1	..	1	..	1	..	1	..	..	..	..	..	5	2	..	..	1	..	1	..	..	..	..	..
Diseases of Digestive System	1	2	2	2	1	3	..	..	2	3	..	1	2	19	2	..	..	..	..	1	1	2	..	..	..
Lymphatics and other Glands		
Urinary System	1	2	2	..	1	..	..	..	6	..	..	..	1	..	..	..	..	..	..	..
Generation Organs		
Abortion of Childbirth	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..
Diseases of Bones..	1	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..
Diseases of Skin	1	..	..	..	..	..	..	..	..
Accidental Violence	1	..	1	2	2	..	..	2	1	..	..	2	10	1	..	2	..	..	2	1	1	1	..	..

dict, in weeks, during the year ending, December 30th, 1894.

Total Deaths	WEEKS.													Total Deaths	WEEKS.													Extra	Total Deaths	YEAR.
	27	28	29	30	31	32	33	34	35	36	37	38	39		40	41	42	43	44	45	46	47	48	49	50	51	52				53
..	2	3	3	..	3	4	3	1	1	20	21
5	1	1	..	..	..	..	..	..	..	..	..	..	..	2	..	..	1	..	..	..	..	2	..	..	..	..	..	3	14
18	2	1	..	..	2	2	1	4	3	1	1	..	2	19	..	..	1	..	..	..	..	1	..	2	1	1	..	6	61
1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	1	..	..	..	..	..	4	10
2	..	..	..	..	..	1	..	..	..	..	..	3	..	4	2	2	1	1	..	..	..	..	..	..	1	..	..	7	26
1	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..	1	..	1	..	..	..	..	..	..	..	..	..	2	7
..
..	1	2	..	2	4	4	6	..	1	4	1	1	..	26	2	1	3	2	..	..	..	1	..	..	1	..	..	10	38
..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	2
..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
2	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	..	..	..	..	..	..	..	2	6
..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
..
3	..	1	..	..	..	1	1	..	..	..	1	1	..	5	..	..	..	..	..	..	2	..	..	..	..	1	..	3	12
..	1
..	1	..	..	..	1	..	..	1	..	3	1	..	1	8	..	..	1	..	..	..	..	..	..	..	..	..	..	1	2
9	..	1	..	1	..	..	1	..	3	1	..	1	..	8	..	..	3	..	2	..	..	2	2	2	2	..	13	36	
2	..	1	..	1	2	..	..	1	..	1	..	2	..	7	1	..	2	..	1	..	1	..	..	1	..	..	6	16	
4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	1	1	..	..	4	13	
31	3	1	..	1	3	2	2	2	1	3	..	4	1	23	2	..	2	2	2	4	2	4	5	1	1	6	3	35	110	
6	2	..	1	1	..	..	..	1	1	1	1	1	..	8	..	1	..	..	..	..	..	..	..	1	1	3	..	6	23
2	2
13	2	2	1	..	1	1	..	1	1	1	..	..	..	10	1	1	..	1	..	1	..	..	2	..	..	1	2	9	48
8	..	1	..	..	..	1	..	..	..	..	2	2	..	6	1	1	1	..	1	..	1	..	..	1	..	..	..	6	26
37	6	3	1	4	3	4	1	2	..	1	1	3	3	32	1	1	3	3	..	2	3	1	3	5	..	1	..	23	113	
15	2	2	..	..	2	3	1	..	3	..	3	4	..	20	..	..	..	1	1	..	1	2	1	1	1	2	2	12	58
1	1	..	..	..	1	1	..	..	..	..	..	..	1	4	..	..	1	..	..	..	..	1	..	..	..	..	2	8	
2	..	..	..	..	2	1	..	..	..	..	..	..	..	3	..	..	..	1	..	2	..	1	1	2	..	..	7	24	
32	..	2	3	1	..	2	3	1	1	2	3	3	1	22	2	3	1	3	5	9	7	4	3	5	4	1	5	53	154	
29	2	3	2	..	2	1	1	..	1	2	2	..	3	19	2	2	2	3	5	1	4	6	2	2	1	1	2	33	119	
1	1	..	..	2	..	..	..	..	..	..	..	..	1	4	..	..	..	..	..	..	..	1	..	..	..	..	1	6	6
20	2	1	1	1	2	..	2	1	2	..	..	3	1	16	2	1	1	..	2	..	1	2	2	3	..	2	1	17	74
4	..	..	..	..	..	1	..	..	..	..	1	..	..	2	..	2	..	1	..	..	..	..	..	..	1	2	6	17	
15	..	1	3	2	1	2	3	6	1	4	3	3	3	32	6	1	2	2	4	4	6	2	..	1	1	2	1	33	99	
1	..	..	..	..	..	..	1	..	1	..	..	..	1	4	..	..	..	..	3	..	..	..	..	..	1	1	..	1	2
2	..	1	..	..	..	1	..	1	..	1	..	..	1	4	..	..	..	..	1	..	..	..	..	1	1	..	5	17	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	2	2	
3	..	..	..	..	1	..	1	..	..	..	2	..	..	4	..	..	..	..	1	..	..	1	..	..	..	..	..	2	10
2	1	..	1	4
1	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	1	3
13	1	..	4	1	2	2	..	..	1	1	..	..	..	12	1	2	..	..	1	3	4	1	2	2	..	1	6	23	58
..	1	1
4	1	1	7
..	1
22	2	2	2	1	1	1	..	1	2	..	3	2	1	18	5	3	..	..	1	1	2	3	1	2	..	2	..	20	75
7	..	1	..	2																										

STREET REGISTER,

Showing the Locality, number of Deaths in each, and whether arising from Zymotic or other Diseases.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Ashcroft street ...	1	7	8	Berreys lane ...	0	1	1
Albion street... ..	2	7	9	Barton street ...	0	2	2
Appleton street ...	0	7	7	Bewsey street ...	0	3	3
Atherton street ...	0	8	8	Bath street ...	0	1	1
Ardwick street ...	2	1	3	Blinkhorn street ...	0	1	1
Albert street ...	1	7	8	Bold road ...	0	2	2
Argyle street ...	1	4	5	Blackbrook ...	0	2	2
Arthur street ...	0	3	3	Bank Street ...	1	3	4
Alma street ...	0	3	3	Back Bolton Street ...	0	1	1
Atlas street ...	0	1	1				
Arnold street ...	0	1	1				
Ashton street ...	1	2	3				
Ada street ...	0	1	1	Carlow street ...	1	0	1
Atlas court ...	1	1	2	City road ...	0	2	2
				College street ...	2	14	16
Barracks ...	0	1	1	County Asylum ...	0	80	80
Booth street ...	0	2	2	Cottage Hospital ...	0	18	18
Baxter street ...	1	0	1	Crab street ...	1	3	4
Burtonhead road ...	0	2	2	Clarence street ...	0	2	2
Barrow street ...	0	2	2	Chapel street ...	1	4	5
Brook street ...	0	6	6	Crossley road ...	1	4	5
Banner street ...	0	1	1	Chancery lane ...	0	6	6
Bishop street ...	1	6	7	Clyde street ...	1	11	12
Bold street ...	2	12	14	Croppers hill ...	1	4	5
Back lane ...	0	1	1	Carnarvon street ...	2	2	4
Back Grove street ...	0	2	2	Corporation street ...	0	1	1
Brynn street ...	1	5	6	Claughton street ...	0	5	5
Boundary road ...	2	12	14	Cresswell street ...	1	5	6
Barbers court ...	0	1	1	Cyril street ...	0	5	5
Brown edge ...	1	0	1	Copperas street ...	0	4	4
Bronte street ...	0	2	2	Chorley street ...	1	1	2
Baldwin street ...	0	2	2	Canal bank, west ...	0	4	4
Barber street ...	0	1	1	Clifton street ...	1	0	1
Baxters lane ..	0	5	5	Chester lane ...	0	3	3
Broad Oak road ..	1	5	6	Crook street ...	1	1	2
Bickerstaffe street ...	0	2	2	Cotham street ...	0	1	1
Borough road ...	0	2	2	Charles street ...	0	3	3
Bold lane ...	0	1	1	Cowley street ...	0	1	1
Bourne street ...	0	1	1	Church street ...	0	2	2
Balmer street ...	0	1	1	Cooper street ...	0	7	7
Bolton street ...	4	4	8	Critchley street ...	0	1	1
Back Albert street ...	0	4	4	Crowther street ...	0	4	4
Bruce street .	1	2	3	Church street (Sutton)	0	3	3
Bridge street ...	0	2	2	Cowley Hill lane ...	0	1	1
Black Horse street ...	0	1	1	Canal Bank east ...	0	1	1
Birchley street ...	1	2	3	Cairne street ...	0	2	2
				Chester street ...	1	0	1
				City Gardens ...	0	1	1

STREET REGISTER—CONTINUED.

STREET.	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET.	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Dorothy street ...	0	1	1	George street ...	2	2	4
Dixon street ...	0	1	1	Grove street ...	0	3	3
Derbyshire hill road ...	0	3	3	Grove place ...	0	2	2
Duke street ...	1	14	15	Greenfield road ...	1	10	11
Denton's green lane ...	0	4	4	Grimshaw street ...	0	1	1
Ditch hillock ...	1	2	3				
Doulton street ...	0	4	4	Higher Parr street ...	4	18	22
Dudley street ...	1	1	2	Hope street ...	2	2	4
Devon street ...	0	4	4	High street ...	0	1	1
Dunriding lane ...	0	2	2	Hammer street ...	2	7	9
Dam row ...	0	1	1	Hardy street ...	0	1	1
Derby street ...	0	2	2	Hanover street ...	1	10	11
				Heath street ...	0	1	1
Eldon street ...	3	7	10	Hammond street ...	0	1	1
Eccleston street ...	0	15	15	Havelock street ...	0	2	2
Elephant lane ...	0	17	17	Herbert street ...	2	3	5
Elliott street ...	0	1	1	Hardshaw street ...	0	3	3
Edward street ...	0	2	2	Hill street ...	0	1	1
Ellbess lane ...	1	3	4	Havannah ...	0	1	1
Eliza street ...	0	1	1	Hillsmiss lane ...	0	3	3
Exeter street ...	0	1	1	Highfield street ...	1	2	3
Edgeworth street ...	1	1	2	Halefield street ...	0	2	2
Ellamsbridge road ...	0	3	3	Harris street ...	0	1	1
Ellison's square ...	2	1	3	Helena road ...	1	3	4
East road ...	1	0	1	Houghton street ...	0	1	1
Epsom street ...	0	1	1	Hudson street ...	1	3	4
				Hard lane ...	0	2	2
Foundry street ...	0	1	1	Hammill street ...	0	1	1
Fever Hospital ...	19	2	21				
Fox street ...	0	5	5	Islands brow ...	0	2	2
Factory row ...	0	2	2				
Fenton street ...	0	6	6	Johnson street ...	1	1	2
Frederick street ...	1	10	11	Junction lane ...	1	8	9
Fleet lane ...	1	9	10	John street ...	1	1	2
Frazer street ...	0	3	3	Jackson street ...	1	0	1
Fisher street ...	0	1	1	Joseph street ...	0	1	1
Fenney's lane ...	0	3	3				
Frazer's court ...	0	3	3	Kirkland street ...	0	6	6
Friar street ...	1	1	2	King street ...	0	2	2
Frederick street (Sutton) ...	0	1	1	Knowsley road ...	0	1	1
Fir street ...	1	0	1				
				Liverpool road ...	0	4	4
Glover street ...	1	4	5	Lyon street ...	2	12	14
Green street ...	0	2	2	Liverpool street ...	2	10	12
Gladstone street ...	0	5	5	Lord street ...	2	1	3
Grafton street ...	1	3	4	Langtree street ...	1	6	7
Graham street ...	0	3	3	Lewis street ...	3	2	5
Gerard's lane ...	0	1	1	Lowe street ...	1	0	1
Gerard street ...	0	2	2	Lingholme road ...	0	1	1
Grant street ...	0	3	3	Lawrenson street ...	0	3	3
Glade hill ...	0	1	1				
Garnet street ...	0	1	1				

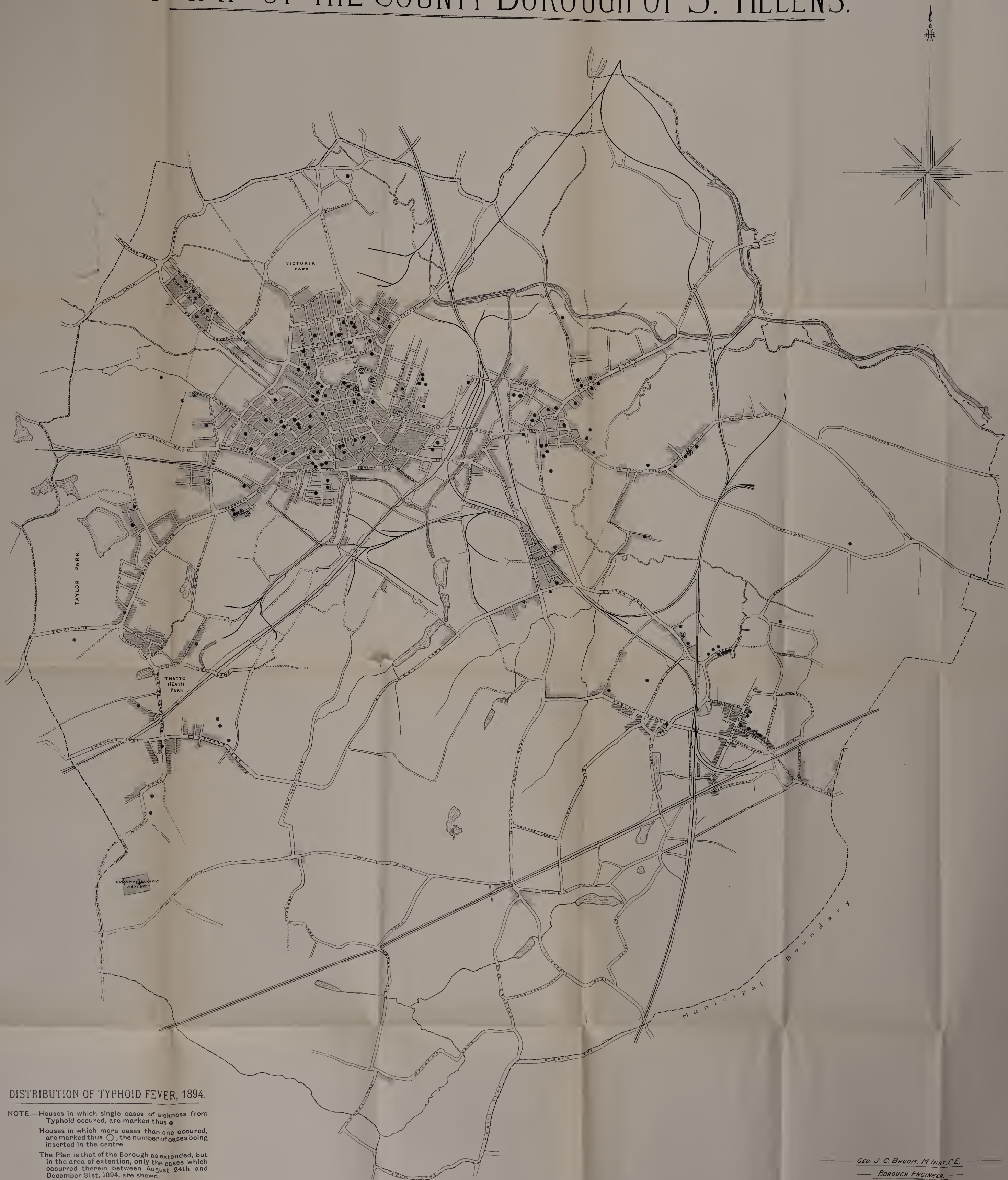
STREET REGISTER.—CONTINUED.

STREET	ZYMOTIC DISEASES	ZYMOTIC DISEASES	TOTAL	STREET.	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
Lea green ..	0	3	3	Parr Moss ..	0	1	1
Lugsmore lane ..	1	3	4	Pottery street ..	0	1	1
Lee street ..	2	1	3	Phythian street ..	1	6	7
Leach lane ..	0	1	1	Peel street ..	0	3	3
Laurel road ..	0	1	1	Pitt street ..	2	7	9
Latham street ..	0	2	2	Pocket Nook street ..	3	5	8
L. & N.-W. Ry. (Gerard's Bridge Siding) ..	0	1	1	Prospect row ..	0	1	1
Milk street ..	0	1	1	Prescot road ..	1	5	6
Morley street ..	0	7	7	Parr Mount street ..	0	2	2
Marshall's Cross road ..	0	14	14	Parr Mount ..	0	1	1
Mill lane ..	0	4	4	Parliament street ..	0	1	1
Mill street ..	0	5	5	Park street ..	0	1	1
Manor street ..	2	4	6	Queen street ..	0	4	4
Market street ..	0	1	1	Royle street ..	0	1	1
Merton Bank road ..	1	6	7	Ross street ..	0	3	3
Merton street ..	0	1	1	Railway terrace (Sutton) ..	0	1	1
Moss bank street ..	0	1	1	Raglan street ..	1	10	11
Mill place ..	1	0	1	Ramford street ..	1	6	7
Maxwell street ..	0	4	4	Rimmer street ..	1	1	2
Marsh street ..	0	3	3	Rivington street ..	0	1	1
Micklehead green ..	0	1	1	Robins lane ..	2	8	10
Moxon street ..	0	3	3	Russell street ..	0	6	6
North John street ..	1	1	2	Randon street ..	0	3	3
Normans road ..	0	5	5	Rigby street ..	0	5	5
Napier street ..	1	10	11	Rolling Mill lane ..	0	2	2
Normans lane ..	0	2	2	Rutland street ..	0	1	1
New Cross street ..	0	6	6	Royal street ..	0	1	1
Nutgrove road ..	5	6	11	Ravenhead ..	0	2	2
North road ..	0	6	6	Rodney street ..	1	1	2
Newton road ..	1	8	9	Raven street ..	0	3	3
Naylor street ..	0	2	2	Ravenhead road ..	0	1	1
New Market place ..	0	1	1	Ravenhead hall ..	0	1	1
Nicholson street ..	0	1	1	Rainford road ..	1	0	1
Oxford street ..	1	8	9	School street east ..	0	2	2
Oldfield street ..	1	4	5	Stanhope street ..	1	6	7
Ormskirk street ..	1	1	2	St. Thomas street ..	0	5	5
Orrell street ..	1	4	5	Sutton Moss ..	1	2	3
Owen street ..	0	2	2	Sutton street ..	0	2	2
Old Nook ..	0	2	2	Stanley street ..	0	4	4
Park road ..	4	31	35	Sandfield Crescent ..	0	1	1
Parr street ..	1	7	8	St. Paul street ..	0	1	1
Providence Hospital ..	0	40	40	Stone street ..	1	3	4
Parr Stocks road ..	0	8	8	South John street ..	3	4	7
Prescott street ..	0	2	2	Sutton ..	0	1	1
Peter street ..	1	10	11	Sidney street ..	0	1	1
Peckers hill road ..	2	4	6	Sutton Leach ..	0	1	1
Peasley Cross lane ..	0	7	7	St Helens Canal ..	0	8	8
				Sutton Heath road ..	0	2	2
				Sandon street ..	1	1	2

STREET REGISTER.—CONTINUED.

STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL	STREET	ZYMOTIC DISEASES	OTHER DISEASES	TOTAL
South street ..	0	1	1	Waine street ..	3	1	4
Springfield row ..	0	2	2	Watson street ..	0	1	1
School street north ..	0	1	1	Williamson street ..	0	4	4
Silver street ..	0	1	1	Waterloo street ..	1	5	6
Sutton road ..	0	12	12	Windle City ..	3	4	7
Station road ..	0	2	2	Walker street ..	1	1	2
St. Ann's ..	1	2	3	Wilcock street ..	0	3	3
Sinclair street ..	0	1	1	Warrington New road ..	0	4	4
				Watery lane ..	1	5	6
Tontine street ..	0	8	8	Worsley's brow ..	0	2	2
Tickle street ..	0	1	1	Water street ..	0	3	3
Talbot street ..	1	4	5	Wilson street ..	3	7	10
Traverse street ..	0	6	6	Westfield street ..	2	12	14
Twyford street ..	1	2	3	Whittle street ..	0	3	3
Taylor street ..	0	2	2	Wright street ..	1	2	3
Thatto Heath ..	0	3	3	Ward street ..	0	3	3
Tamworth street ..	0	2	2	West street ..	0	1	1
				Wilfred street ..	0	1	1
Union street ..	1	5	6	Walker's lane ..	0	1	1
Union street east ..	0	1	1	Wood street ..	0	3	3
				Wellington terrace ..	0	1	1
Vernon street ..	1	3	4	Webb street ..	0	1	1
Virgil street ..	0	2	2	Windle street ..	0	1	1
Victoria street ..	1	5	6	Windleshaw road ..	0	7	7
Vincent street ..	1	1	2				
Volunteer street ..	0	3	3	York street ..	1	4	5
				York place ..	0	1	1

MAP OF THE COUNTY BOROUGH OF ST. HELENS.



DISTRIBUTION OF TYPHOID FEVER, 1894.

NOTE—Houses in which single cases of sickness from Typhoid occurred, are marked thus ●

Houses in which more cases than one occurred, are marked thus ○, the number of cases being inserted in the centre.

The Plan is that of the Borough as extended, but in the area of extension, only the cases which occurred therein between August 24th and December 31st, 1894, are shewn.

— GEO. J. C. BROOM, M. Inst. C.E. —
— BOROUGH ENGINEER. —

Scale—Six Inches to One Statute Mile

